Institutional Support to the Malawi

Ministry of Transport

Marine Department
Organizational Structure

Department of Civil Aviation
Organizational Structure

Road Traffic Department
Organizational Structure

Submitted to:
USAID/Malawi

Submitted by:
Institutional Reform and the Informal Sector (IRIS)
2105 Morrill Hall
University of Maryland, College Park
College Park, MD 20742
USA

Malawi Ministry of Transport Project
Contract: PCE-1-00-97-0042-00
Task Order: 805

Marine Department

Organizational Structure

REGULATORY ORGANIZATION FOR MALAWI'S MARINE SECTOR

1. Introduction

This report examines the organizational structure for administering the Inland Waters Shipping Act of 1995, in order to:

- improve the organizational structure and functions of the Department of Marine Services in the Ministry of Transport
- ensure that safe, reliable and efficient water transport services are sustainable on Malawi's Inland Waters
- harmonize Malawi's lake transport system with its road and rail modes of transport.

1.2 Report Organization

The present section (Section 1) provides an introduction and brief institutional overview. Section 2 describes Malawi's inland water transport system. Section 3 examines the regulatory functions and roles prescribed in the Inland Waters Shipping Act of 1995. Section 4 reviews the organization, staffing, and budget of MOT's Marine Department. Section 5 discusses public funding. Section 6 deals with privatization plans. Section 7 presents principal findings and recommendations. Section 8 provides a conclusion.

1.3 Institutional Overview

Malawi Lake Services, Limited. (MLS) has a virtual monopoly position on the commercial transportation of passengers and cargo among Malawi's lake ports. A major transition in marine functions took place in the mid-1990s as part of the process leading to the commercialization and concessioning of Malawi railways. Exhibit 1 shows the pattern of functional responsibilities before this transition.

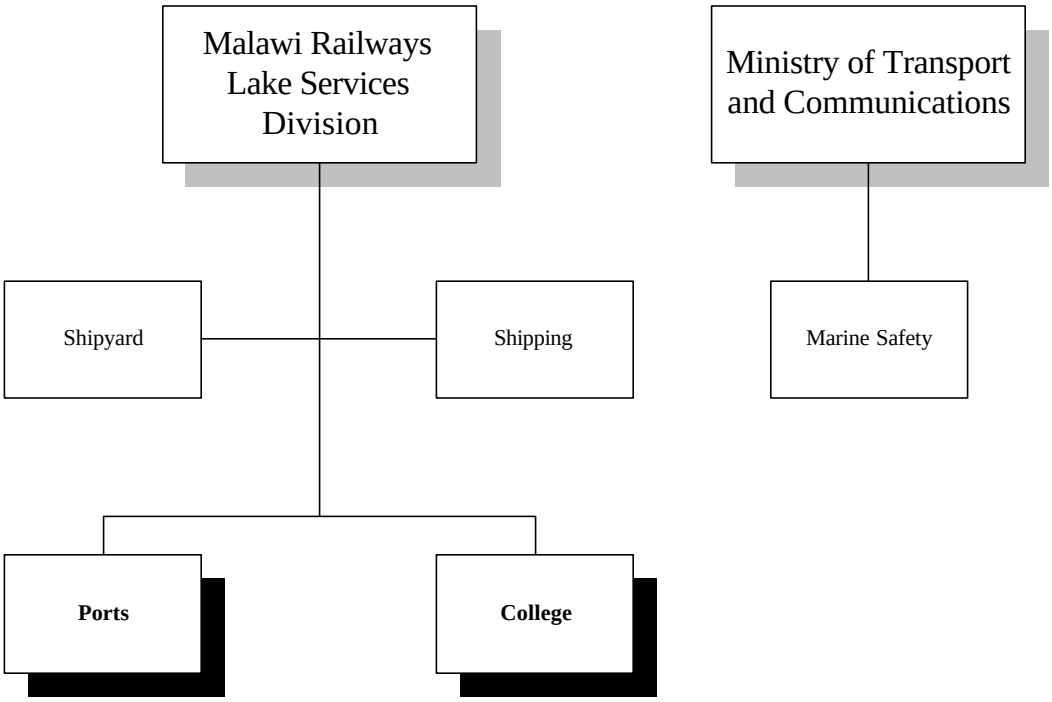
Malawi Lake Services Limited had its origin as the Lake Services unit of Malawi Railways Limited (MR), then a statutory corporation owned by the Malawi Government. The Lake Service unit of MR operated Malawi's ports as well as providing shipping services and operating a shipyard. It also was responsible for the Marine College. The Ministry of Transport promulgated safety regulations. It inspected MLS and other vessels for seaworthiness under inland waters shipping legislation. The legislation did not explicitly provide for MOT oversight of port operations as such, and no such oversight was provided.

MLS was separated from the railway as part of the railway restructuring process. In March of 1995, it became Malawi Lake Services, Limited, a parastatal limited company incorporated in Malawi under the Malawi Companies Act of 1984.

At that time it was recognized that MLS would subsequently be commercialized and/or privatized.

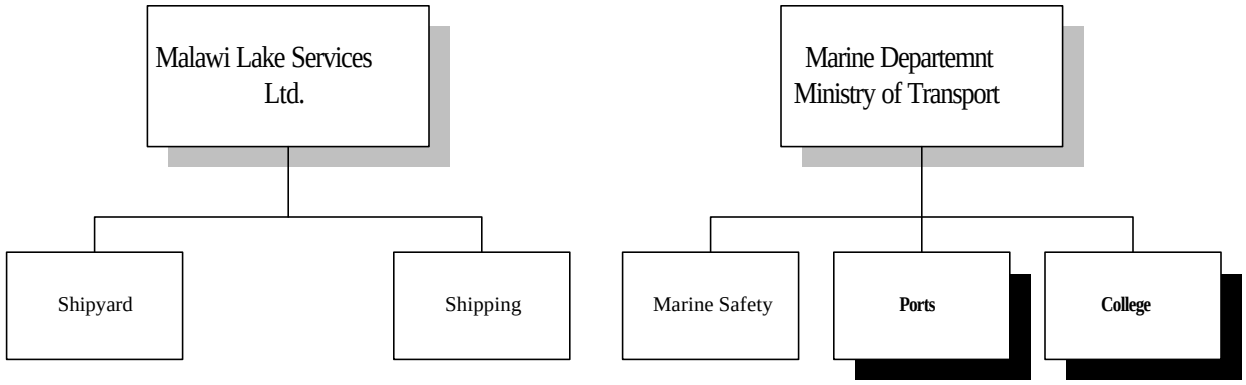
Exhibit 1

Responsibility for Key Marine Functions
Before Transition



Because competition with other shipping companies on Lake Malawi was anticipated in connection with the development of the northern corridor to the Dar es Salaam port in Tanzania, management and operations functions were transferred to the Ministry of Transport. A training college for deck officers and marine engineers had earlier been transferred from MLS to the Ministry. MOT's original safety functions, the port management and operations activities which had been transferred from MLS, and the marine training college were combined to form MOT's present Marine Department. The functional pattern AFTER transition is shown in Exhibit The

Exhibit 2
Responsibility for Key Marine Functions
After Transition



acronym "MLP" is sometimes used to refer to Malawi Lake Ports and/or their operations. The impression is sometimes conveyed that "MLS/MLP" represents a single organization, or two sister organizations. This is not so. Although some consulting reports and government documents talk about privatizing "MLP" as though it were a separate entity, it is important to understand that no separate or sister organization called "Malawi Lake Ports" now exists or indeed has ever existed on its own. Prior to 1994, as described above, there was once a ***unit*** of Malawi Railways' Lake Services organization responsible for port management and operations. The functions, assets, and personnel of this unit were, in effect, transferred to MOT and became the Port Management and Operations Division of MOT's Marine Department. To the extent the "MLP" can be said to exist today, it is simply another name for the functions, personnel, equipment, and real estate that are now the responsibility of the Marine Department's Port and Operations Division shown in Exhibit 7 and described in Section 4.2.3 below.

2. Malawi's Inland Water Transport System

This section describes the composition and magnitude of commerce on Malawi's inland waters, Malawi's fleets, and the nation's ports.

2.1 Marine Commerce: Composition and Magnitudes

Malawi's marine commerce consists of transport of (1) passengers; (2) cargo; and (3) the fishing catch. Passenger and cargo traffic are normally considered to be the main elements of a water transport system. However, fishing is vitally important to Malawi. Fishing boats large and small are covered in Malawi's Inland Waters Shipping Act and are inspected for seaworthiness by MOT's Marine Department.

2.1.1 Passengers and Cargo

Malawi Lake Services, Inc. is the principal commercial carrier of cargo and passenger traffic on Lake Malawi. A government-owned Tanzanian shipping company also carries passengers and goods to and from that country. Its volumes are comparatively small.

Exhibit 3 shows Lake Malawi cargo and passenger traffic for the period 1980 through 1997. As shown, traffic in both categories hit a peak in the mid-eighties -- in 1986 in the case of cargo; in 1987, in the case of passengers. In 1997, cargo traffic was less then 25% of its 1986 peak. Passenger kilometers were less than half of the 1987 high.

Cargo traffic declined dramatically in 1994 and 1995, and then recovered somewhat in 1996 and 1997. The principal reason for the lows in 1994 and 1995 was a decline in the level of the Lake Malawi. The low water level inhibited port use by Malawi's container ship.

The civil war in Mozambique is the key event in the longer-term cargo traffic pattern. With the closure of routes through Mozambique to the sea, an alternative to the long truck route to Durban appeared essential, particularly for Malawi's exports. A northern route utilizing the port of Dar es Salaam offered such an alternative. Water transport in combination with other modes held promise of greater efficiency and cost-effectiveness.

Some people felt that there was sufficient demand for passenger serviced from islands and

Source: Transport and Communications Performance Bulletin 1998

Note: The 1995 kilometers per ton number is an error. The correct number is unknown

Exhibit 3

Malawi Lake Services

Cargo and Passenger Traffic

1980-1997

		MLS Cargo Traffic				MLS Passenger Traffic		
	Tons Carried (thousands	Ton Kilometers (millions)	Ton Kilometers Index	Kilometers Per Ton		Passengers Carried (thousands)	Passenger Kilometers (millions)	Passenger Kilometers Index
1980	31.2	10.691	100	342.7		105.1	16.2	100
1981	28.4	9.695	91	341.4		132.7	18.3	113
1982	37.3	12.903	121	345.9		169.7	21.7	134
1983	26.7	8.778	82	328.8		196.6	24.4	151
1984	36.2	12.887	121	356.0		188.4	21.5	133
1985	37.0	12.483	117	337.4		200.6	23.2	144
1986	41.6	13.767	129	330.9		199.7	22.0	136
1987	29.3	9.79	92	334.1		207.4	22.1	137
1988	24.6	8.28	77	336.6		184.7	19.8	123
1989	23.3	8.021	75	344.2		168.0	17.6	109
1990	22.9	8.201	77	358.1		176.5	17.6	109
1991	18.8	6.432	60	342.1		163.9	17.7	110
1992	17.1	5.933	55	347.0		197.1	20.4	126
1993	11.8	3.682	34	312.0		118.3	10.3	64
1994	4.6	0.683	6	148.5		162.3	13.2	82
1995	6.8	4.495	42	661.0		201.1	15.3	95
1996	13.6	1.426	13	104.9		141.3	10.5	65

isolated villages near Lake Malawi's shores, as well as from other locations, to justify additional passenger vessels. Foreign aid started to flow and much more seemed in prospect as the World Bank, USAID, and other donors rallied around the concept of a Northern Transport Corridor Project.

The promise of the Northern Corridor Project has, however, never been fulfilled. The civil war in Mozambique ended. Malawi's international trade patterns shifted over time. South Africa, rather than Europe, remained the leading source of imports. In retrospect, the concept of a Northern Corridor, at least for as the lake service is concerned, was probably flawed. There is a road that runs along the lake and parallels the lake service. The many transfers between modes that lake service requires, with their associated delay and cost , makes it almost impossible for the Lake Service to be very competitive.

At the same time, Malawi's road network was improved, providing alternatives to water transport

for both passengers and cargo. Marine traffic on Lake Malawi faces increasing competition from the rail and road modes, each of which is seeking to improve its efficiency and self-sufficiency through institutional reform other measures. In summary, the vision of a vibrant Northern Transport Corridor carrying expanding volumes of cargo and passenger traffic that shone so brightly in the mid-eighties now seems faded. Nevertheless, the idea lingers on.

2.1.2 Fishing

Exhibit 4 shows that the production of Malawi's fishing fleet has not been subject to the degree of volatility that has characterized cargo and passenger traffic on the lake. Much of this fishing fleet consists of relatively small boats launched from landings rather than ports. It is less dependent on the level of the lake and upon dredging than are commercial cargo and passenger vessels.

Exhibit 4

Cargo Traffic and Fish Production Compared

1985-1993

	Malawi Lake Services Cargo		Fish Production in Malawi	
	Tons Carried (thousands)	Tons Carried Index	Tons Produced (thousands)	Tons Produced Index
1985	37.0	100	62.1	100
1986	41.6	112	72.1	116
1987	29.3	79	88.4	142
1988	24.6	66	78.8	127
1989	23.3	63	70.7	114
1990	22.9	62	74.0	119
1991	18.8	51	63.7	103
1992	17.1	46	69.5	112
1993	11.8	32	68.2	110
Sources:	Transport and Communications Performance Bulletin 1998			
	Malawi Statistical Yearbook 1995			

2.3 Fleets

Exhibit 5					
Vessel	Built	Passengers	Dry Cargo	Petroleum Capacity	
MALAWI LAKE SERVICE					
Passenger Vessels					
Mtendere	1980	420	45 Mt		
Ilala	1949	380	100 Mt	30,000 Liters	
Out of Service					
C. Maples	1899	180	20 Mt		
General Cargo Ships					
Nkhwazi	1954		200 Mt	27,000 Liters	
Karonga	1975		300 Mt	90,000 Liters	
Out of Service					
Mpasa	1935		225 Mt		
Container Ship					
Katundu	1992		750 Mt		
Petroleum Tanker					
Ufulu	1983		32 Mt	312,200 Liters	
Motor Launch					
Temp. out of Service					
Ncheni	1957				
Tugs					
Viphya	1976				
Out of Service					
Thyolo	1947				
Dowa	1947				
Barges and Pontoons					
Barge 300	1966		300 Mt		
Barge 203	1956		203 Mt		
Barge 91	1950		91 Mt		
Oil Pontoon 1	1965		600 Mt		
MARINE DEPARTMENT					
Dredger					
Elicott	1994				
Out of Service					
Secare	1971				
Sources: Transport and Communications Poerformance Bulletin 1998, Table 3-14,					

VESSELS OWNED BY OTHERS:

1 Club Makakola Recreational Boat (one other out of service following accident)
1 Hydrographic Service Vessel
1 Police Launch (four others not operational)
3 Maldeco Fishing Trawlers (Kandwindwi, Crystal Lake, Dennis Sanudi)
2 Fishing Department Trawlers (Nduma and Epelwyn)
1 Privately Owned Fishing Trawler (Hapann)

Malawi vessels fall into two categories: a "modern fleet," consisting of relatively large vessels mostly made of metal and a "traditional fishing fleet" consisting of relatively small boats largely made of wood. As described below, the "modern" fleet is inspected by Marine Department surveyors with technical and engineering backgrounds, while the traditional fishing fleet is inspected by boat examiners whose expertise lies in nautical woodwork and carpentry.

Exhibit 5 shows the modern fleet. In summary, Malawi Lake Services has the following vessels in service:

- Two passenger vessels
- Two general cargo ships
- One container ship
- One petroleum tanker
- One tug
- Five barges and pontoons

The Malawi Lake Services motor launch is temporarily out of service while it is being refitted with new propulsion engines. A passenger vessel (the *Chauncy Maples*), a general cargo ship (the *Mpasa*), and two tugs, are out of service. The futures of these out-of-service vessels are uncertain. The Marine Department operates a dredger out of the port of Chipoka which it received from USAID in 1995. An older dredger is out of service.

As shown on Exhibit 5, there are also nine other relatively large vessels. The hydrographic vessel is owned by the Government's Hydrographic Survey. Of the six fishing trawlers, three are owned by the Maldeco Fisheries Corporation and two by the Fisheries Department of the Government of Malawi, and one by a private individual. Club Makakola, a tourist and recreational complex, has one recreational vessel in service. Another is out of service following an accident. The police have one patrol boat in service and four out of service. Vessels owned by the military are not subject to survey and are not shown on the list.

Under certain circumstances, some of the vessels that are now "out of service" could be rehabilitated and put back into service. New vessels could of course be added to the fleet. There seems little reason to rehabilitate old equipment or purchase new vessels. Given the current pattern of management and operation and the current levels of cargo and passenger traffic, there does not appear to be an economic justification for fleet replacement or expansion. In summary, the operational "modern fleet" that could require annual inspections by Government of Malawi surveyors is well under thirty ships.

The number of wooden fishing boats in Malawi can only be estimated because many are neither registered or inspected. However, they may number up to three to four thousand, of which less than a third to a half are inspected annually.

2.4 Ports

Lake Malawi has a complex of 21 ports and landing points not counting Tanzania and Mozambique facilities. There are, however, only four main harbors. These have been designated as such by regulation under the Inland Waters Shipping Act, and they handle the preponderance of cargo and

passenger traffic on Lack Malawi. They are as follows:

- Monkey Bay
- Chipoka
- Nkhata Bay
- Chilumba

Monkey Bay is Malawi's southernmost lake port, fairly close to Mangochi. It is the site of shipyard activities. It handles very little cargo traffic. Chipoka, somewhat further to the north in the southern part of the lake is fairly close to the inland city of Salima. Nkhota Bay is in the north central portion of Lake Malawi, close to the inland city of Mzuzu. Chilumba is Malawi's most northern port. In any given year, Chipoka, Nakhota Bay, or Chilumba may handle the largest tonnage of cargo. Over the years, however, Chipoka has been the busiest port.

3. Regulatory Functions and Roles

The Inland Waters Shipping Act (1995),[1] a statute of some 72 pages, replaced an older and much shorter law. In some respects, the 1995 Act resembles legislation adopted by countries bordering the seas -- countries whose maritime establishments are much larger than those of Malawi and whose fleets engage in voyages of much greater length.

3.1 Range of Functions

The 1995 Inland Waters Shipping Act establishes the following principal regulatory functions: for survey and registration of commercial vessels and fishing boats. It also provides for licensing of vessels carrying passengers and goods for hire, whilst commercial fishing boats are licensed under the Fisheries Act (Cap. 66:05). The Inland Waters Shipping Act also deals with the following:

- Survey of commercial vessels (certification for seaworthiness)
- Registration of commercial vessels
- Licensing of commercial vessels
- Examination of fishing boats (certification for seaworthiness)
- Registration of fishing boats
- Establishing manning levels for vessels
- Examinations for, and issuance of certificates of competency for, ships' officers
- Registering transfers of ownership and mortgaging of vessels
- Accident reporting
- Preliminary inquiries and courts of investigation
- Load line prescription and certification
- Oversight of crew member employment arrangements and discipline
- Apprenticeship agreements
- Supervision of matters relating to wrecks and salvage

[1] A companion IRIS report, *Inland Waterways Legal Framework Report* provides a discussion of this statute and related laws.

Enforcing seaworthiness, manning, and other safety regulations

3.2 Safety and the Chief Surveyor

Apart from three pages covering the licencing of commercial vessels,[2] the principal concerns of the 1995 Inland Waters Shipping Act are with safety, crews and related record-keeping. The Chief Surveyor is the central implementing position in the regulatory scheme projected in the 1995 Inland Waters Shipping Act. The "Chief Surveyor" position derives its title from the Marine Department's "survey" function -- inspecting and certifying the fitness of commercial vessels that carry passengers or goods (in the marine context vessel fitness is called "seaworthiness"). The Chief Surveyor's regulatory functions under the law are certainly more wide-ranging those of fitness certification, but they are principally technical and clearly related to safety.

3.3 Two Classes of Commercial Vessels

The 1995 Act draws an important distinction, based on international treaty considerations, between a fishing vessel of less than fifteen meters and one of more than fifteen meters in length. However, the statute then provides a basis on which both larger and smaller fishing boats can be inspected and certified for seaworthiness.

Section 59 provides for the issuance of a safety convention certificate and an inspection certificate for a fishing vessel of fifteen meters or more when inspection results satisfy Malawi regulation and all relevant provisions of International Conventions to which Malawi is a party. However, Section 60 provides a basis for issuing local safety certificates where they are not required by international safety conventions. It is the basis for inspection of the largely wooden fishing boats of under 15 meters in length in Malawi's fishing fleet.

This distinction is reflected in the characteristics of Malawi's "two fleets," described in Section 1 of this report. It is also reflected in the classification, skills, and assignments of technical personnel in MOT's marine safety department. Boat examiners handle fishing boats under fifteen meters in length. Since these boats are largely made of wood, their skills are in carpentry. Surveyors handle larger vessels, which are largely made of metal. Inspection of these vessels requires a range of technical skills.

4. MOT's Marine Department

This section deals with the organization, functions, budget, and personnel of the Marine Department in the Ministry of Transport It gives particular attention to the unit with the heaviest regulatory responsibilities under the 1995 Act, the Department's Marine Safety Division

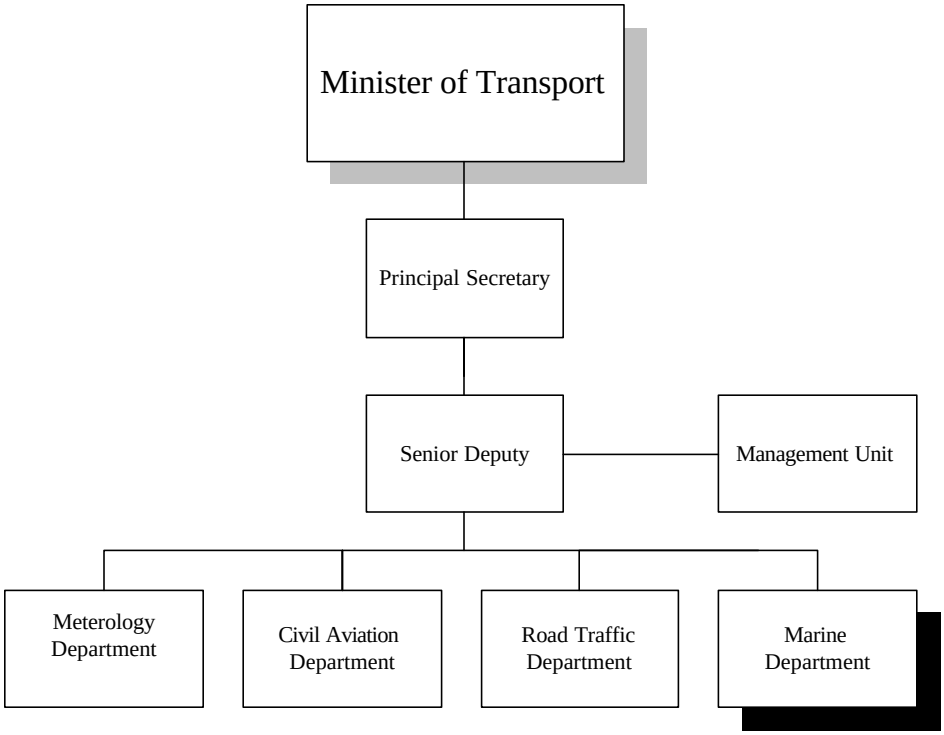
[2] Our companion report, *Inland Waterways Legal Framework Report*, recommends elimination of provisions that enable the use of the licensing process to restrict competition.

4.1 Organization

Exhibit 6 shows the location of the Marine Department in the Ministry of Transport's organization chart. As can be seen, the Department is one of the Ministry's four line units.

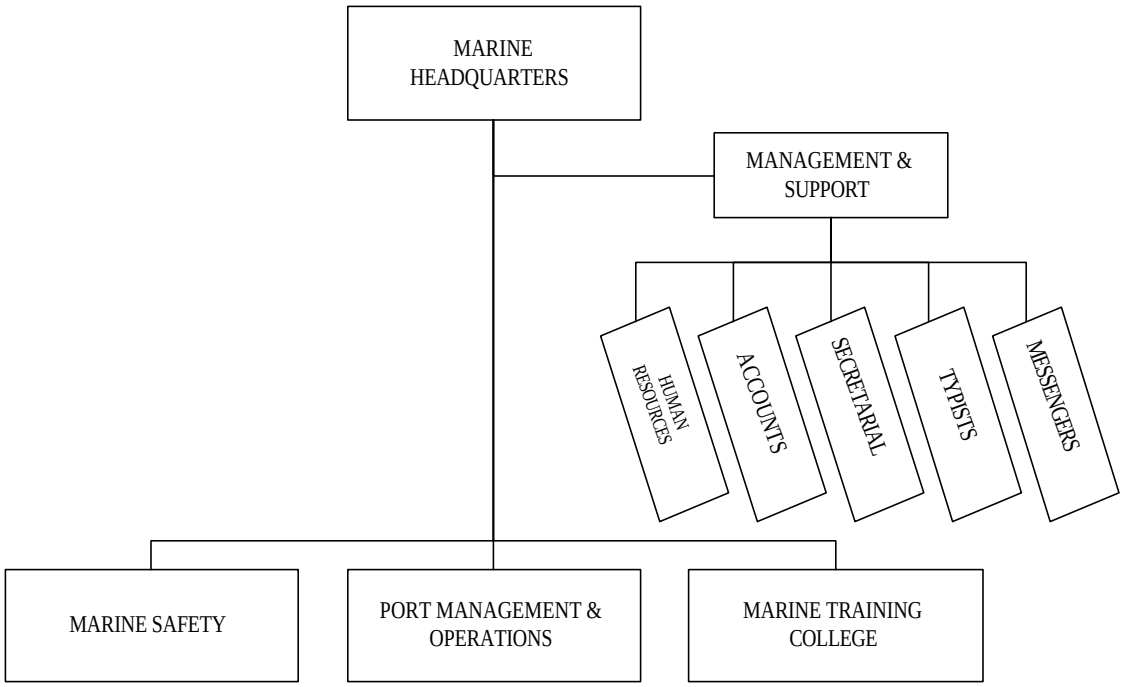
Exhibit 7 shows the internal organization of the Department. There are three principal line divisions, marine safety, port management and operations, and the marine training college. The formal organization reports to headquarters management, headed by the Director of Marine

Exhibit 6



Services and the Deputy Director of Marine Services. However, the Director's principal focus is on port operations. The Marine Safety Division in fact reports to the Deputy Director and for all practical purposes, the Deputy Director serves as Chief Surveyor. Thus, *de facto*, the central regulatory position in the statutory scheme rests with the Deputy Director rather than at the Director.

Exhibit 7



4.2 Functional Responsibilities

4.2.1 Headquarters Management

The Director of Marine Services and the Deputy Director are supported by management staff in the areas of administration, accounts, human resources, and secretarial service. Although both the Director and Deputy Director have department wide responsibilities, the Director's principal focus is on port management and operations. As noted in the previous section, the Deputy Director serves as the Chief Surveyor for purposes of the Inland Waterways Shipping Act of 1995 and oversees the Marine Safety Department.

4.2.2 Marine Safety Division

The Marine Safety Division had its origin as a unit in MOT's headquarters unit, which had safety as its sole function.[3] That unit was joined with the Marine Training College and port management functions to form the present Marine Department.

The current functions of the Marine Safety Division include most of the statutory responsibilities discussed in Section 2 in the areas of (1) ship survey (2) ship registration, transfers and mortgaging; (3) designation of vessel manning levels; (4) examinations for, and issuance of certificates of competency for, ships' officers; (4) accident reporting; (5) receiving accident reports; (6) arranging preliminary inquiries and courts of investigation; (7) load line prescription and certification; (8) supervision of matters relating to wrecks and salvage; (9) crew agreements and discipline; and (10) enforcing seaworthiness, manning, and other safety regulations. The Division also reviews ship designs prior to construction.

[3] Ministry of Transport and Civil Aviation *Functional Review, Implementation Report and Action Plan* (18 October 1996), p.82.

Within the unit, inspection functions are divided into surveys of larger commercial ships (mostly steel construction) and examination of fishing boats (mostly wooden construction). Surveys of larger ships take place at Malawi ports, but surveyors are located in the Department's Headquarters in Lilongwe. For an annual inspection of a given vessel, surveyors may require as many as three visits in a given year. Fishing boat examiners are located at Nkhotakota, Salima, Mangochi, and Zomba.

Major accidents on the Lake are comparatively infrequent, occurring perhaps once every two years, and salvage operations are infrequent. The last time there was loss of life on a passenger vessel was in 1946. However, there have been groundings, and it is probable that some serious accidents involving traditional fishing boats go unreported.

Personnel from the Safety Division are usually called on to carry out work on revising regulations. Revised regulations under the 1995 Act are currently being prepared, and are expected to include new provisions in the field of marine pollution.

The Division is responsible for the installation and maintenance of navigation aids, sailing charts, and coordination of search and rescue activities.

4.2.3 Port Management and Operations Division

The Port Management and Operations Division largely consists of personnel transferred from Lake Services company. During the course of planning for the Northern Transport Corridor project, shipping companies interested in competing with Lake Services argued that the company's control of the ports would give it an unfair advantage. Accordingly, port real estate and equipment, the port management functions, and the Lake Service personnel performing these functions were transferred to the Marine Department. The personnel included a substantial number of stevedores.

Plans for using contract labor rather than government employees are under consideration. This Division is responsible for the maintenance and development of the ports and for marine environmental protection services. In addition to Lilongwe headquarters, it has facilities and personnel at Chilumba, Nkhotakota, Likoma, Chipoka, and Monkey Bay.

4.2.4 Marine Training College

The Marine Training College was originally a part of the Lake Services element of Malawi Railways. The College is located at Monkey Bay. It was transferred to Government in the 1980s in the course of a revitalization effort assisted by the International Maritime Organization.

The mission of the Marine Training College is to prepare marine and port operations officers. However, it presently provides instruction only for deck officers and marine engineers. It is suggested that the institution might serve neighboring countries as well as Malawi, but this has not occured. Its present student body consists of about 10 engineering and deck officer candidates. The college receives support from the International Maritime Organization and bilateral donors. Its staff currently includes two Icelandic experts supported by the International Maritime Organization. Its graduates are principally employed by Malawi Lake Services and by the Port Management and Operations Division within the Marine Department. When they graduate another

class will begin. The average cost per student per year is 200,545 kw or $US 4,664 at the current exchange rate, based on a class of 10 students. It will cost about $US14,000 per graduate, assuming no students drop out, for the three year course.

4.3 Budget

The Marine Department budget for 1998/99 was 9,128,933 Kwacha. This can be broken down among the three line divisions and headquarters unit as follows:

#	Marine Safety Division	7%
#	Port Management/Operations Division	59%
#	Marine Training College	22%
Subtotal		**88%**
#	Headquarters Management	12%
TOTAL		**100%**

The Marine Safety Division's budget includes the costs of the fishing boat examiners discussed in Section 3.2.2 above as well as all transport costs required for surveyors and boat examiners to perform their functions at ports and boat landings. Boat examiners are stationed at Nkota Kota, Salima, Mangochi, and Zomba, from which locations they travel to fishing boat landings. Surveyors are posted in the Department's Lilongwe headquarters, from which location they travel to perform surveys at Malawi's ports.

The Headquarters Management and Support Service plus a small amount for training represent about 12% of the Department Budget. The Martine Training College represents about 22% of the Department total.

4.4 Staffing and Personnel

Management and Support Services is clearly a unit that is separate from the Marine Department's Safety Division for both organizational and budgeting purposes (see Exhibit 6 and Exhibit 7). However, the *Review* [4] treated the two together. The Functional Review projected a reduction of Marine Department Staffing as follows:

	Before	**After**	**Reduction**
Headquarters/Marine Safety	25	21	4
Port Management and Operations	205	117	88
Marine Training College	23	19	4
TOTAL	253	156	96

The reduction of 96 positions was to come about largely through the use of contract employees rather than maintaining staff positions. This would result in reducing 82 stevedoring positions and six general maintenance positions in the Port Operations and Management Division. Four

[4] Ministry of Transport and Civil Aviation *Functional Review, Implementation Report and Action Plan* (18 October 1996), p. 88.

messenger services positions from the Headquarters/Safety Division were also be eliminated through the use of contract employees. The reduction in Marine Training College was to be accomplished largely through a combination of eliminating positions and increasing the use of contract teaching positions. There would be a cost saving because the contract employees would only be employed as necessary.

The *Functional Review* concluded that the then existing number of stevedoring positions (82) could be reduced:

> "Considering the current level of work at the ports, we believe that no more than 54 stevedores would be required, as opposed to the current 82. This would still entail considerable underutilization of staff as ships do not arrive at ports every day. However, the most effective way to meet requirements for stevedore services would be to contract out these services."

The current staff of the Marine Department is:

Headquarters	16
Marine Safety	16
Port Management and Operations	183
Marine Training College	18
TOTAL	233

It can be seen that the current staff level for the Department is similar to the "Before" level. It appears that the recommendations of the *Functional Review* have not been adopted. However, the elimination of 88 positions in the Port Management and Operations Division is still in prospect as a result of the expected contracting out of stevedoring services.

The circumstances of the Marine Safety Division deserve special comment from the point of view of regulatory structure and organization. The *Functional Review* put forward[5] the following professional/technical positions for the Headquarters/Marine Safety combination:

TWO HEADQUARTERS SENIOR MANAGERS:
1 x Director of Marine Service (P4)
1 x Deputy Director of Marine Services (P5)

TEN HEADQUARTERS REGULATORY POSITIONS:
1 x Principal Surveyor of Ships (P7)
4 x Senior Surveyors of Ships (P8)
1 x Surveyor of Ships (PO)
1 x Chief Boat Examiner
1 x Surveyor/Examiner/Nautical (PO/CTO)
1 x Surveyor/Examiner/Engineering (PO/CTO)
1 x Senior Examiner of Boats (STO)

[5] The Functional Review noted that it made no recommendations concerning staffing changes in Marine Safety, pending completion of a World Bank-funded review.

FOUR FIELD REGULATORY POSITIONS:
4 x Examiners of Boats (TO)

The first two positions -- Director and Deputy Director of the Marine Department-- shown above are now treated as headquarters management positions for purposes of budget and organization. The last positions on the list (4 boat examiners) are located respectively at Nkota Kota, Salima, Mangochi, and Zomba, as described in Section 3.2.2.

The ten regulatory positions shown in the middle of the list are senior professional/technical post at the Department's Lilongwe Headquarters office. The current level of staffing in these posts is three persons, three below the "Before" level shown in the *Functional Review* and five persons below the "After" level.

Vessel surveying and fishing boat examination activities do not appear to provide sufficient magnitudes of activity to fully engage these persons. The operational fleet of "modern" vessels requiring inspection by the Marine Department's surveyors is well under 30 in number (Section 1.3). On the basis of a maximum of 80 hours (two person-weeks) of inspection time per vessel per year (including travel, documentation, and associated administrative requirements), requirements, a 30-vessel fleet should require no more 60 person-weeks of effort each year.[6]

A wooden fishing boat can be inspected in less than four hours. Were the entire fishing boat fleet actually inspected every year as required, the existing complement boat examiners would be very busy indeed. However, probably no more than 1,000 to 1,500 are examined each year. The productivity of boat examiners is severely constrained by lack of transport to fishing boat landings.

5. Public Funding

Exhibit 9 compares the volumes of passenger and freight traffic for all three surface transport modes. Only a fraction of 1% of the surface passengers are moved on the lake while an overwhelming proportion (98.3%) is moved by road. In any given year, about 40 times as much cargo is moved by road as is moved by water.

MOT's Road Traffic Department is budgeted at kw6.3 million for 1998/99, while the Marine Department's budget is kw 9.1 million.[7] Malawi Lake Services government subvention is kw 6.5 million for the same period. The combined total of Marine Services and Lake Services is kw 15.6 million.

The road and railway modes are moving fairly rapidly toward maintaining their respective

[6] On-site inspection time for a passenger vessel probably is on the order of 36 person hours for annual inspections and 36 hours for the hull inspection required every four years. In general, modern vessels other than those carrying passenger require less inspection time. However, time required to associated administration, documentation, and travel can be substantial.

[7] Estimates of Expenditures on Recurrent Account for the Financial Year 1998/1999 Recurrent Account as laid before Parliament on 26th of June, 1998.

physical plants on a self-sustaining basis. While hardly spotless[8], the marine sector's safety record on the lake (no passenger fatalities since 1946) is immensely superior to that of roads

Exhibit 9
Malawi Surface Transport Modes
Freight and Passenger Traffic
1991-1997

		Passenger Traffic					**Freight Traffic**		
		(thousands)					(thousand tons)		
	Lake	Road	Rail	Total		Lake	Road	Rail	Total
1991	164	52,307	1,469	53,940	1991	19	379	264	662
1992	197	50,734	901	51,832	1992	17	267	237	521
1993	118	52,757	734	53,609	1993	12	424	303	739
1994	162	53,314	444	53,920	1994	5	83	368	456
1995	201	50,314	431	50,946	1995	7	137	226	370
1996	141	43,146	339	43,626	1996	14	174	132	320
1997	133	34,320	391	34,844	1997	10	59	152	221
TOTAL	**1,117**	**336,892**	**4,709**	**342,718**	**TOTAL**	**83**	**1,523**	**1,682**	**3,288**
%	**0.3%**	**98.3%**	**1.4%**	**100.0%**	**%**	**2.5%**	**46.3%**	**51.2%**	**100.0%**

SOURCE Transport and Communications Performance Bulletin 1998 National Economic Council Economic Report, 1998

(upwards of 700 fatalities per year). On the surface at least, public expenditures on water transport seem grossly disproportionate -- even given a socially mandated requirement to serve otherwise inaccessible areas.

Malawi Lake Services Ltd. has a long history of losses and dependence on government subventions. The company's most recent audited statements are for 1996 and are only in draft form. They show an operating loss of kw1.4 million, after taking a government subjection of kw 10 million into account. The real loss is at least kw11.4 million,[9] larger than their total income from operations. Though this amount does not come from MOT's budget, it is equivalent to more than 21% of the Ministry's total recurrent funding.

Income from lake transport services amounted to kw10.9 million in 1996, of which kw3.9 million was derived from passenger traffic and kw 7.0 million from carriage of cargo.

A note on the draft 1996 financial statements reads:

> "The company was established as an integral part of a program with the objective of creating an autonomous commercially oriented enterprise, which ultimately will be a suitable candidate for privatization. To this end, both Government (Malawi) and USAID are committed to providing facilities and resources to implement the program under various agreements between the parties."

[8] Justifications for increased funding of the Marine Division cite a number of safety problems requiring correction. These include the condition and shortage of fuel for navigation aids. Inspections of Lake Malawi passenger vessels and complaints from passengers have identified safety problems from time to time.

[9] Given MLS' maintenance practices and depreciation methods, the loss in real terms may be considerably larger.

The Government subvention for Lake Services Limited contained in the Estimates of Recurrent Expenditure for 1998/99 is 6.5 million, 35% below the 1996 level. This is progress, however, the current level of profit or loss has not been published. The published data on 1997 passenger and cargo traffic volumesare not encouraging.

6. Privatization

MLS was formally separated from Malawi Railways in the mid-90s as part of the railways restructuring process. At that time, some thought that shipping and port services might follow a path to concessioning quite similar to that of Malawi Railways, both in approach and timing. However, settling on an appropriate privatization method has proved more difficult and controversial in the case of the marine sector than it has for railways. From the point of view of MOT's Marine Department, the choices made will have their most important impact on its Port Operations and Management Division. However, the privatization path finally chosen well may have relatively little effect upon the Marine Department as a regulatory organization whose central mission under the Inland Water Shipping Act is marine safety.

Issues of competition and regulation of discriminatory practices could arise under some possible privatization outcomes -- particularly if port management and shipping services were placed under common management. However, such economic issues probably could be best handled by the Competition and Fair Trading Act, with technical advice from the Marine Department where appropriate. Because privatization will affect industry structure and because industry structure can affect interactions between road, rail, and water transport, a summary of the current status of privatization is offered in this section.

The World Bank Staff Appraisal Report for the Malawi Railways Restructuring Project (March 1995) described a process by which MLS would become an autonomous company, and then be privatized:

> "It is intended that, after being registered as a private company, MLS would be split into three separate result centers, viz. Freight services, passenger services, and vessel maintenance and different decisions would be taken as appropriate for commercialization and privatization of these activities. To link the operation of the different ports (currently under Marine Department of MOTCA) to the shipping activities, the port activities would be transferred to a concessionaire, if necessary, via MLS."[10]

The World Bank included the financing of short term consultancy studies relating to MLS restructuring and privatization in its Railways Restructuring Package.

A KPMG Peat Marwick study carried out for the Ministry of Transport later in 1995 concluded that shipping and port operations could be profitable on the following ***assumptions***:[11]

---

[10] The World Bank, Staff Appraisal Report: Republic of Malawi, Railways Restructuring Project (Report No. 12491-MAI, March 3, 1995, p. 20.

[11] Of these assumptions, only the commercial operation of the Katundu has been substantially fulfilled.

- The MLS' fleet undergoes comprehensive rehabilitation
- Navigation aids and port facilities are rehabilitated and upgraded
- The cargo vessel MV Katundu commences commercial operations
- Aggressive cargo marketing is carried out
- Computerized management information and accounting systems are established
- Staff manning the vessels, facilities and ports undergo appropriate training

KPMG's principal recommendation was that privatization should be preceded by commercialization. The cost of commercialization to the government was estimated by the consultants to be excess of K50 million.

The first step in the process recommended by KPMG -- commercialization under Government auspices -- has never been fully implemented. On the one hand the Government felt that KPMG's study did not contain schematic plans needed to assess its options. On the other hand, donor funding was not available to finance the revitalization and commercialization process on the scale envisioned by KPMG. Moreover, it was not clear that the expense of this process could be recovered from subsequent privatization or concessioning.

In 1997. The Government retained Hickling Transcom Limited of Canada to undertake further privatization studies. Hickling developed five options, which it presented in the fall of 1997:

ALTERNATIVE A: Do nothing (continue the status quo)

ALTERNATIVE B: Form a single integrated company to handle shipping services, the ports, and the shipyard

ALTERNATIVE C Create and privatize three separate companies to handle the shipping services, the ports, and the shipyard activities

ALTERNATIVE D: Offer assets for sale separately

ALTERNATIVE E: A "hybrid solution" in which separate companies could be formed to provide different kinds of shipping services, another company could be selected to handle ports and the shipyard, and remaining assets could be sold off.

Following discussion, these were narrowed to two, Alternative B (a single integrated company) and Alternative E, the "hybrid" solution. The Consultants favored the hybrid solution, although they felt further explorations of financial feasibility were needed. Malawi Lake Services Ltd. favored the single company solution.

Consultants argued in favor of Alternative E on the grounds that Alternative E would open the inland shipping to market forces and innovation, and that it was needed to break a prevailing pattern of inefficiency in combination with dependence on government subsidies and donor support. Alternative E would also avoid a monopolistic arrangement in which a single shipping company could dominate the Lake.

The principal arguments MLS used in favor of Alternative B were as follows:

1. A single integrated business (SIB) unit would provide greater efficiency by ensuring coordination between shipping activities, the ports, and the shipyard
2. SIB would eliminate duplication of management functions.
3. SIB could negotiate for better financial arrangements
4. SIB would support marketing research and promotion costs which individual units could not afford.
5. SIB is readily compatible with a share purchase scheme that would in turn readily accommodate both Malawian and foreign investment.
6. The SIB disposal process will be fairly simple and clear, whereas the hybrid option requires a long and complicated process involving a high degree of uncertainty and risk.
7. Where risk is high, the only way to lower risk is to lower the cost of investment. As a result the hybrid option will return less to the Government.
8. The issue of monopoly does not arise because the Government has liberalized the provision of transport services. Lake shipping is already facing stiff competition from road transport operators.
9. None of the three activities (shipping services, shipyard, and ports) is capable of standing on its own. It is only through joint operation that the resulting will be commercially viable.

In November of 1997, the Privatization Commission reached the conclusion that neither Alternative B (a single company), nor Alternative E (hybrid option) would safeguard the commercial viability of the Malawi Lake Services and the Ports. The Commissioners therefore resolved that the Government subsidy to Lake Services should cease. In effect, the company would be wound up, with the proviso that the Government should take on the obligation of providing transport to areas that are only accessible by lake transport.

Neither the Ministry of Transport nor MLS,however, agreed. MOT then developed two strategy papers, one for Malawi Lake Services and one for Malawi Lake Ports. In the case of Malawi Lake Services, privatization was to take the form of a concession to a single business that would handle both the shipping services and the shipyard. The port strategy paper also called for a "single integrated business" (cargo and passenger handling). However, it was felt that only some part of the ports would be of interest to the private sector, but others would have to be subsidized by government. The successful bidder for the concession would be restricted to using the port services for shipping interests only. The Privatization Strategy for Malawi Lake Ports states:

> "The cargo services in Malawi Lake Services would be just about viable under conditions of full cost recovery in ports, but there would be no operating surplus left to cover costs of ships' maintenance and provide a profit. Thus Lake Malawi Ports would not provide commercially viable services if all required operation and investment costs are to be borne by the private sector, including capital dredging costs, maintenance dredging costs, fully posted port tariffs, and quay reconstruction costs. It is strongly believed that some parts of Lake Malawi Ports may be attractive to private investors, but this will depend on Government assuming certain financial obligations. The ports which have at present container gantry cranes, dry cargo cranes, forklift tractors, fuel handling facilities, warehouses, dredging

equipment, maintenance workshops to mention a few presently operate under a budget of kw 12 million a year while revenue remains at kw 6 million per year. It is strongly recommended that areas that can be or are identified as indivisible and requiring a common management regime be left together.

Due to disagreements between the MLS' Board and Management and the Ministry on how best to privatize MLS, a recommendation has been put forward that the Commission advertise for bids either on the basis of a long-term lease or for the outright purchase of assets of Malawi Lake Services. A price preference would be given to bids for MLS as a single unit. A consultant would be employed to determine which passenger services on the Lake warrant a Government subsidy. Thus, several options for the future could be put to a form of market test through a bidding process.

It is doubtful that "privatization of Malawi Lake Services" means today what "privatization of Malawi Lake Services/MLP" did at the time the Hickling study was carried out in 1997. Nor does the term "single integrated business unit" mean what it did at that time. Then SIB meant "ports, shipping services, and shipyard together in a single unit." Indeed the idea that the port activities would be transferred to a concessionaire, as envisioned in the 1995 World Bank Appraisal Report, appears to have dropped out of sight.

Since November 1997, (1) MOT has developed a strategy paper taking the position that the ports cannot be fully privatized and (2) the Marine Department has initiated a process (anticipated in the 1996 *Functional Review*) of privatizing stevedoring on a labor contracting basis.[12] This form of privatization leaves the management and operation of the ports in the hands of the Port Management and Operations Division. These events suggest the possibility that neither Hickling's "Alternative B" (single integrated company to handle shipping services, the ports, and the shipyard) nor its "Alternative E" (separate companies to provide different kinds of services shipping/port/shipyard services in combination with sale of some assets) may be put to a market test unless a change in current plans is made.

7. Findings and Recommendations

7.1 Privatization of Port Operations and Maintenance

Recommendation #1: The full range of activities currently performed by the Marine Department's Port Operations and Management Division should be opened for privatization. Such an opening should be programmed to provide maximum flexibility for entrepreneurial initiative as tenders for Malawi Lake Services operations or assets are sought. In particular, tenders on the basis "Alternative B" (integrated business unit handling shipping, ports, and the shipyard) and "Alternative E" (multiple business units handling shipping, ports and the shipyard) should be permitted.

[12]The 1996 *Functional Review* found privatizing port services to be an attractive option for the medium term, but recommended only that stevedoring services and some general maintenance services be put out to contract immediately. *Functional Review, op. cit.*, pp. 16-17, 86. The process of privatizing stevedoring has moved slowly, and some 88 stevedores remain on the MOT payroll.

The Privatization Commission's current plan is to advertise for bids, for the Malawi Lake Services Limited either as a whole (concession basis), in business units (concession basis), or for individual assets. In effect, the MOT preference is expected to be put to a "market test" with the proviso that bids made on a single unit basis will be given a preference. Across-the-board plans for privatizing or concessioning the ports appear to stand in abeyance, on the grounds that some port functions such as dredging must be subsidized and hence cannot or should not be privatized. Only stevedoring is slated for near-term privatization.

Any decisions that have been made to not offer the full range of port activities for privatization ought to be reexamined, as should the conclusion that government subsidization of these activities is inevitable. The best route to harmonization of the surface transport modes is to remove all subsidies with the exception of those services that are clearly socially mandated in order to serve otherwise inaccessible communities. Road and rail are moving swiftly toward internalizing full costs. Subsidization of ports ought to be phased out and competitive forces allowed to operate. Services should be paid for by the users that need them. In the case of dredging, for example, only the container ship Katundu requires much dredging.

> Recommendation #2 Surveyors should be located closer to the ships they inspect rather in the Lilongwe headquarters building. The fleet that requires annual inspections by surveyors is well under 30 ships. If surveyors were located closer to the lake the inspections could be done with a smaller work force.
>
> Recommendation #3 The Marine Department's annual budget should be revised to indicate the costs associated with surveying and inspection of vessels. This would provide senior MoT officials with more useful information concerning the cost/benefit of maritime inspections.

7.2 Adjustment Assistance

> Recommendation #4: The Government of Malawi should assist communities and individuals adversely affected by the transition to prepare for the inevitable restructuring of Lake Transport System. This might include transfering posts to other Departments of the Ministry of Transport. The posts could be used, for example to improve road safety.

Transport on Lake Malawi was once the principal mode of connecting Malawi's northern and central regions with commercial activities in the south. Over the years, it has yielded primacy to other modes. The brief vision of revival of transport on the lake as a part of a northern route to the sea has faded, and the time for a major restructuring has come. Restructuring may have adverse short-term effects on individuals and communities. These adverse impacts should be anticipated suitable mitigating measures should be put in place.

Malawi's investment, financial and psychological, in its current fleet and port facilities ought to be regarded as "sunk costs," essentially irrelevant for purposes of sound economic and policy decision-making. Public decisions concerning the ownership and operation of Malawi's ports -- and port privatization strategy in particular -- should be based on an assessment of the merits of future options rather than the magnitude of past investments.

Considerations of efficiency and limited public resources may require the closing of one or more of Malawi's present ports. These considerations may also require the mothballing of most of its present fleet. Use of lighters and smaller boats on the lake in combination the development of rural roads on the land may make the best sense for a nation seeking to create a vibrant and self-sustaining transportation system.

At the same time, the welfare of persons, inside and outside of government, who now earn their livelihoods from Malawi's ports is a legitimate socioeconomic consideration in the formulation of public policy. The same is true of the communities whose economies benefit from proximity to these ports. As major changes in marine transport are made, Malawi may face problems not unlike those United States Government has dealt with in closing of domestic Army bases. Adjustment assistance for transition, rather than trying to sustain unjustifiable government expenditures, is the most constructive socio-economic response. Such a course of action should be planned by the Government of Malawi and deserves the support of the donor community.

7.3 The Marine Training College

> Recommendation #5: The Marine Department should cease its subsidization of the Marine Training College.

The 1996 *Functional Review* envisioned that the Marine College would be transferred to the private sector "when little further investment is required," but that the situation should be reviewed because "contracting out or even privatization remains an attractive possibility."[13] Other possibilities include training prospective marine officers and engineers elsewhere in the SADCC region and perhaps transferring the college to the Ministry of Education or University of Malawi.

Malawi Lake Services and other commercial operations on Lake Malawi are the principal employers of the deck officers and marine engineers who graduate from the Marine Training College. This institution presently absorbs about 22% of the Marine Department's budget, about three times the funding of the Department's Safety Division. With the privatization of Malawi Lake Services the justification for retaining the college as a heavily subsidized operation within the Marine Department will be further eroded.

It is possible that a future pattern will develop in which graduates will be oriented to serving the needs of foreign maritime nations. To the extent that such a pattern develops, the employing nations should be required to pay for the full costs of training.

National policy calls for the privatization or concessioning of shipping services and some if not all port operations. Given constraints on Malawi's national budget, the pressures of intermodal competition, and the current lack of donor enthusiasm for Malawi's marine sector, the nation is unlikely to be able to support a port management and operations function for long.

---

[13] *Functional Review , op cit*., pp. 84-85.

7.4 Inspection of Traditional Wooden Fishing Boats

Recommendation #6: Inspection of traditional fishing boats should be terminated or privatized.

Malawi has two commercial fleets, one consisting of comparatively modern vessels and one composed of relatively small wooden fishing boats. Inspections of these two fleets require sets of skills that are largely different, one from the other. Five technical professionals, a Chief Boat Examiner in Lilongwe and four Boat Examiners in field offices, specialize in the wooden fishing boat fleet. The Inland Waters Shipping Act draws a distinction, based on international treaty considerations, between a fishing vessel of less than fifteen meters and one of more than fifteen meters in length.

There probably have been unreported accidents involving traditional wooden fishing boats, but loss of human life does not appear to be a major safety problem. Persons who use the boats to earn their livelihoods on the water usually understand the condition of their boats very well and know what needs to be done to maintain them in safe condition. Given the fact that less than half of Malawi's fishing boats are inspected each year, a question arises as to the purpose and need for inspection of these boats. If it is deemed important enough to continue and expand the inspection process for wooden fishing boats in order to extend a fairly good safety record, such continuation should be accomplished on a self sustaining fee basis.

One of the reasons that only a portion of the traditional fishing fleet is inspected is that the Marine Division's boat inspectors located in its four field offices lack sufficient funding for transport to the many waterside landings where these fishing boats are located. Changing fees to a level sufficient to pay for all costs of inspection and permitting the Safety Division to retain these fees to defray the pertinent personnel and operating costs, or privatizing the inspection of wooden fishing boats would solve this problem.

8. Conclusion

The best means for MOT's Marine Department to ensure that safe, reliable and efficient water transport services are sustainable on Malawi's inland waters is for Division leadership to concentrate on its legislatively mandated role of insuring the safety of passengers and goods transported by Malawi's "modern fleet." The decisions concerning any need to refurbish or replace the fleet ought to be left to the private sector as part of the restructuring of marine transport.

The Marine Department should prepare to let go of the two divisions MOT has acquired in the last decade, and most importantly the functions of its Ports Management and Operation Division. The need for inspection of small fishing boats and the means by which it is accomplished should be reexamined.

The harmonization of road, rail, lake transport modes can best be sought by incorporating the full cost of their operations into their price structures, and by encouraging both collaboration and competition as a matter or national policy. Movement toward full incorporation of costs is taking place both in the roads and rail sector. In the case of inland waterways, the cost of dredging

should be passed on to the users of the ports along with other costs of port operation. Such cost internalization perhaps could be accomplished gradually, but process should certainly not last for more than five years.

In brief, the regulatory mandate of the Inland Waters Shipping Act can best be fulfilled by an organizational structure focused on the role and functions it assigns to the Marine Division's Chief Surveyor. His job is vessel safety, particularly the vessel safety mandated by Malawi's international treaty obligations.

Department of Civil Aviation

Organizational Structure

Ministry of Transport
Department of Civil Aviation
Organizational Structure

1 Introduction

1.1 Description of the Civil Aviation Sector

Malawi is a land locked country. The aviation sector is psychologically very important. Although the air cargo movement is quite small, totaling 6,235 tons in 1997, most of Malawi's international passengers arrive and depart the country by air. Total air passenger traffic has declined slightly over the past six years dropping from 360,700 in 1991 to 335,000 in 1997. Air cargo has registered a significant decline over the same period dropping from a high of 10,465 tons in 1991 to 6,235 tons in 1997.

The aviation infrastructure consists of two international airports at Lilongwe and Blantyre, and three domestic airports with paved runways at Mzuzu, Karonga and Monkey Bay. Additionally, there are 28 minor airports that are used primarily for tourism and national security. The Lilongwe International Airport (LIA) is owned by Airport Development Ltd. (ADL), a parastatal company which operates and maintains the terminal buildings. All other functions such as air traffic control, fire and rescue, and telecommunications are the responsibility of the Department of Civil Aviation (DCA).

There are eight scheduled international carriers serving Malawi, including Air Zimbabwe, British Airways, South African Airways, Ethiopian Airlines, Kenya Airways, Zambian Express, Air Tanzania and Air Malawi (which is also the only domestic carrier). In 1997 scheduled, non-scheduled, and general aviation totaled more than 19,730 operations, most of which occurred at LIA and Chileka International Airport in Blantyre.

As of July 1998 there were 28 aircraft registered in Malawi. Seven of these belong to the Government of Malawi, four belong to Air Malawi, one of which is a jet. The remaining 17 aircraft are privately owned. All of these aircraft are registered by the DCA. The number of registered aircraft has declined slightly since 1996, when it totaled 30.

Malawi's commercial aviation sector has a very good safety history. A recent ICAO review found Air Malawi to be among the world's best airlines in terms of its safety record. This speaks well of the carrier but it also speaks well of the DCA's safety oversight activities.

Although the civil aviation sector in Malawi is not large in comparison with the other modes, especially in the cargo area, it is a very important mode for international passenger traffic. DCA's responsibilities include airport operations, air traffic control, air safety, aircraft registration, commercial management of air transport and bilateral negotiations of air services agreements.

1.2 Ministry of Transport / Department of Civil Aviation

The MoT aviation statutory powers are contained in the Aviation Act of 1970 (AA). The AA generally provides the legal authorities to regulate and coordinate all required services to provide a safe, efficient, and cost effective air transport system for the benefit of the public, operators and the economy. The DCA carries out these responsibilities.

International air transport is very strongly influenced by the Convention on International Civil Aviation (Chicago Convention) which was established December 7, 1944 in the United States. This Convention established principles designed to ensure that civil aviation may be developed in a safe and orderly manner and that international air transport services, available to all, are operated in a sound and economical manner. The Convention also established the International Civil Aviation Organization (ICAO), the objectives of which are to develop international air navigation and encourage the planning and development of a safe worldwide air transport system. As a Contracting State of ICAO and a signatory to the Convention, Malawi participates in the formulation of Standards and Recommended Practices (SARPs) which govern international civil aviation and has accepted obligations concerning their implementation.

In order for Malawi to participate in international civil aviation, and as a Contracting State of ICAO, they must comply with the international SARPs or file differences thereto. Malawi has done as most other States and applied many of the ICAO SARPs to the domestic air transport services also. The civil aviation laws and regulations and policies as implemented and carried out by the DCA are largely shaped by the ICAO SARPs.

DCA is the largest of the three modal Departments within the MoT. In fiscal year 1999 it accounted for almost 45 percent, or 21.5 million kwacha, of the MoT's recurrent budget. From a staffing standpoint the DCA accounts for about 38 percent of the MoT's total filled posts. About 90 percent of the DCA staff are employed at the two international and several of the minor domestic airports.

2 Civil Aviation Department

2.1 Goals and Objectives

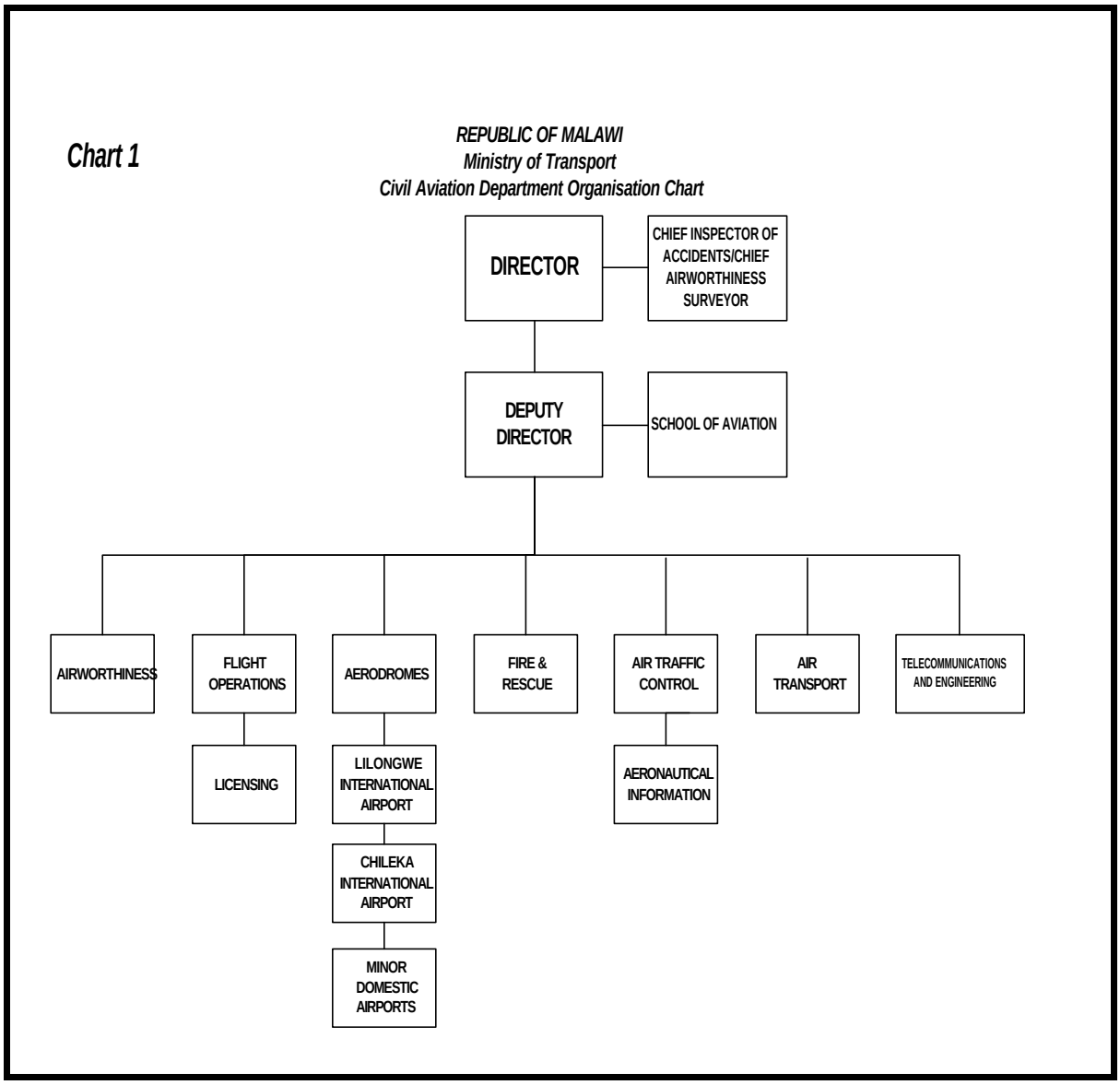
According to the 1997 Fact Sheet on the Ministry of Transport, the goals of the DCA are to regulate and facilitate the development of a modern, safe, efficient and sustainable aviation infrastructure to effectively support and encourage travel, tourism, cargo and other air transport activities. To accomplish this the DCA is focusing on the development of a staff structure that is able to handle the present and future departmental facilities and equipment, and to develop existing and new airport facilities necessary for insuring the safe operation of Malawi's air transport system.

To achieve these goals DCA has established a series of objectives including:

- Establishing an airport and air traffic system that meets the needs of both domestic and international aviation,

- Prevent aircraft accidents both in the air and on the ground,

- Expedite and control air traffic,
- Provide appropriate flight information,
- Provide appropriate search and rescue support,
- Provide a network of communications and navigational aids consistent with international conventions,
- Regulate the safety of aircraft operation by ensuring that operators provide adequate facilities, staff and training to prevent accidents,
- License flight personnel in compliance with international conventions,
- Establish and maintain an accident investigation and information reporting system,
- Regulate airworthiness through inspections of aircraft and the qualifications of maintenance personnel,
- Establish and enforce comprehensive rules and regulations for commercial and general aviation,
- Provide capable and efficient airport fire and rescue services, and
- Establish and continually update professional, technical, and managerial training programs



2.2 Organization and Staffing

The DCA has a staff of 33 for accomplishing these goals and objectives. The DCA has established an organization with eight functional units including an aviation training school (Chart 1). The organization is headed by a Director (P3). Since the recent retirement of the Director, this position has been vacant but is expected to be filled within the next several months. This is the highest ranking Director position within the MoT. At present the Deputy Director (P4) is the acting Director. The Director's management and support staff consists of 11 people including a shorthand typist, five copy typists, an assistant accountant and four account assistants (Table 1). The eight functional units report through the Deputy Director to the Director.

These units are Airworthiness, Flight Operations, Aerodromes, Fire and Rescue, Air Traffic Control, Air Transport, Telecommunications and Engineering and the School of Aviation. Each of these functional units is headed by a Chief at the P5 level, a Principal Officer at the P7 level or a Superintendent. Seven of these units report to the Director through the Deputy Director (Chart 1). The School of Aviation, which is located on the grounds of the ILA, is headed by a P8 Principal Officer. It is organizationally a staff function of the DCA Deputy Director (Chart 1).

Headquarters staffing is thin and uneven. Two of the key units, Airworthiness and Air

Table 1
Department of Civil Aviation
Headquarters Staff

Authorized Positions	Status of Positions
(1) Director (P3)	Vacant
(1) Deputy Director (P4)	Filled - Acting Dir.
(1) Chief Airworthiness Surveyor (P5)	Filled
(1) Chief Telecommunications (P5)	Filled
(1) Chief Flight Operations Officer (P5)	Filled
(1) Chief Air Traffic Control Officer (P5)	Filled
(1) Chief Aerodromes Officer (P6)	Filled
(4) Principal Telecommunications Officer (P7)	(3)Filled (1)Vacant
(1)Principal Aerodromes Officer (P7)	Filled
(1) Fire Superintendent	Filled
(3) Senior Flight Operations Officer (P8)	Filled
(1) Senior Telecommunications Engineer (P8)	Filled
(4) CTO Flight Operations Officer	Filled
(1) Chief Fire Officer	Filled
(1) Chief Communications Officer	Filled
(1) Chief Briefing Officer	Filled
(5) Technical Officer (training)	(5) Vacant
(1) Principal Air Transport Officer (P7)	Filled
(1) Senior Air Transport Officer (P8)	Vacant
(1) Air Transport Officer (P0)	Vacant
(1) Shorthand Typist/Stenographer (D4/3)	Filled
(5) Copy Typist	Filled
(1) Accountant (P0)	Vacant
(2) Senior Accountant & Assist. (SEO/SCO)	Vacant
(7) Assist. Accountant & Assist (EO/CO)	(4)Filled (3)Vacant

Transport, have only one person and each has two vacancies. Air Traffic Control has one position which is filled. Telecommunications and Engineering has six positions, five of which are filled. Flight Operations has eight positions all filled. There seems to be an imbalance between work load and staffing. DCA should focus on filling at least one of the vacant positions in the Airworthiness and the Air Transport unit. It should examine the Telecommunications and Engineering and Flight Operations to determine if any of those headquarter positions could be redeployed to other units.

Thirty-three of the 48 posts at DCA headquarters are filled. The remaining 15 are vacant (Table 1). Ten of the 18 posts at the School of Aviation are filled (Table 2).

Discussions with DCA staff revealed that one of their most serious problems is finding qualified professional and technical personnel to fill the vacant positions at government salary levels. Air Malawi Ltd. (AML) is their biggest competitor for qualified staff.

DCA headquarters has recently undergone an ICAO safety audit which reported a number of shortcomings in compliance with many of the Standards set forth in Annex 1, 6 and 8. The audit proposed a program which would bring them into compliance. Recommendations included establishing an autonomous Civil Aviation Authority (CAA), greater funding flexibility, hiring more qualified personnel, equipping headquarters staff with computers, improved training and changes in the civil aviation laws and regulations.

ICAO has also proposed a special restructuring study to examine the feasibility of restructuring the DCA into an autonomous CAA. DCA indicated that this four month study will be undertaken shortly. This study would, among other areas, make recommendations on the organization structure, funding, recruitment, training, and changes to the AA and Subsidiary Regulations consistent with an autonomous CAA and ICAO SARPs.

School of Aviation
Authorized Positions

Authorized Positions	Status of Positions
(1) Principal Officer P8	Filled
(1) Instructor (CTO) (ATS)	Vacant
(1) Instructor (STO) (ATS)	Vacant
(1) Instructor (STO) (TELES)	Vacant
(1) Instructor (STO) (COMMS)	Filled
(1) Instructor (TO) (COMMS)	Vacant
(1) Instructor (STO) (Fire Service)	Vacant
(1) Engineeering Assistant	Filled
(1) Clerical Officer (CO)	Filled
(1) Typist (D6)	Filled
(2) Machine Operator (SC II)	(1) Filled, (1) Vacant
(6) Messenger//Security Guard (SC IV)	(4) Filled, (2) Vacant

DCA is hopeful that the study will find that an autonomous agency is feasible. They indicated that this CAA would be funded by landing, navigation and passenger departure fees which are collected at Lilongwe, Blantyre and the three minor airports. In fiscal year 1999 these fees totaled about 63 million Malawi kwacha. The passenger departure fee accounts for about 47 percent of the total fee collections, landing fees about 38 percent and navigation fees about 15 percent. DCA is now getting 80 percent of these fees to cover most of the operating and maintenance expenses at the airports but not staff salaries, travel and training costs. At present there is a significant differential in international departure fees paid by Malawi citizens (150 Malawi kwacha) and non-citizens who must pay $US 20

(equaling 837 kwacha at today's exchange rate). This is discriminatory both in the amount and in the currency requirements. It also represents a significant loss in revenue opportunity. The international departure fee should be raised for the Malawi citizens. Those who can afford to travel internationally do not require a significant subsidy. It should also be payable in either kwacha or dollars for all travelers. DCA expects to have access to 100 percent of the fees within the next year and they will be able to use the fees for salaries, travel and training as well as upgrading the computer system. If the passenger departure fees were raised it would substantially increase revenues available for funding the DCA. If the DCA received 100 percent of these fees it could become close to being self sustaining. This increase would be required to fund a CAA. They indicated that as an independent agency they would have more flexibility concerning salaries and benefits. DCA believes that once they are out from under the government civil service restrictions, they would be in a much better position to attract and retrain qualified professional staff members.

Most of the DCA staff (90%) are located at the international airports at Lilongwe and Blantyre or one of the three larger domestic airports at Mzuzu, Karonga and Monkey Bay. These include operational personnel with flight operations, fire and rescue, air traffic control and telecommunications and engineering. The remaining 28 domestic airports are not staffed. All of the airports are under the functional responsibility of the Aerodrome unit. The DCA staff at Lilongwe is in addition to the staff employed by ADL, which operates the passenger services concessions, leases space to air carriers and maintains the grounds. The MoT recurrent budget for fiscal year 1999 indicated that 11.5 million kwacha was allocated for airport operations.

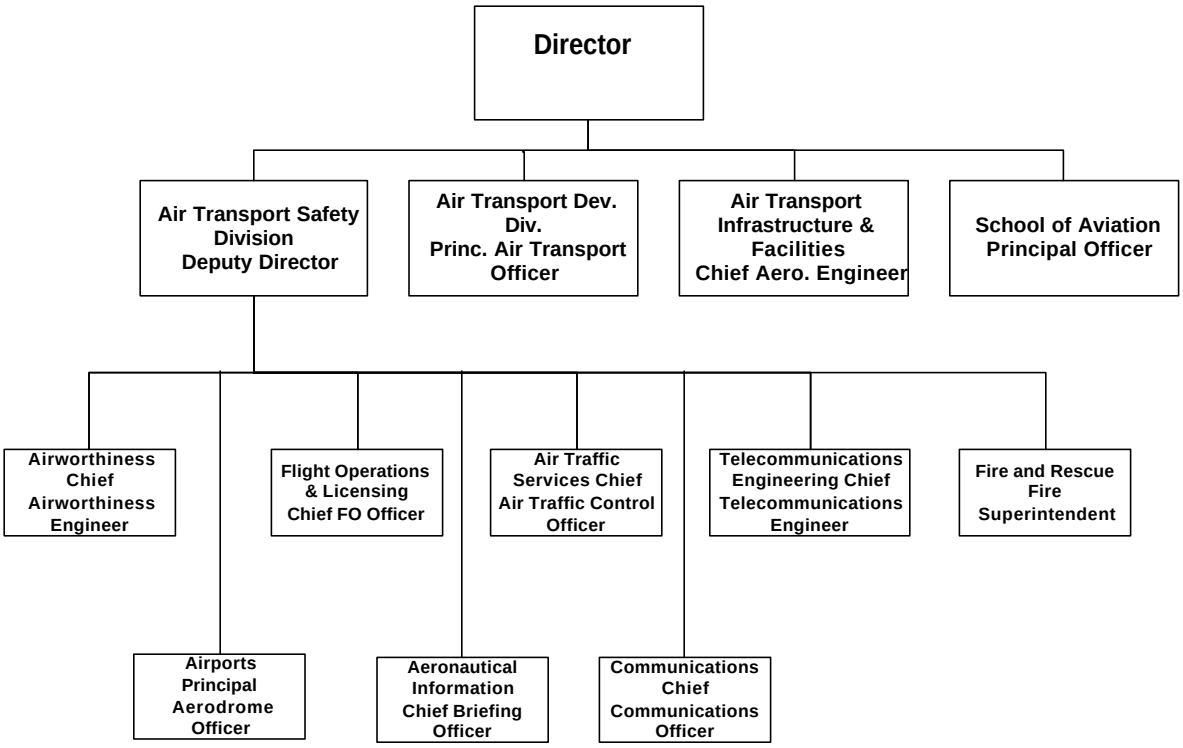
2.2.1 Comment

The present DCA is quite different than the one which was recommended in the Government of Malawi Functional Review, prepared by the Department of Human Resource Management and Development and the consulting firm of KPMG in 1996 (Chart 2). This study recommended combining eight functional units into four functional divisions. The four functional divisions were Air Transport Safety, Air Transport Development, Air Transport Infrastructure and Facilities and the School of Aviation. The Air Transport Safety Division was headed by the Deputy Director (P4). Within that Division there are eight units including Airworthiness, Flight Operations and Licensing, Fire and Rescue, Air Traffic Services, Telecommunications and Engineering, Aeronautical Information, and Communications. Each of the functional units is headed by either a Chief at the P5 level, a Principal Officer at the P7 level or a P7 Superintendent . The Air Transport Development Division is headed by a Principal Transport Officer (P7). The Air Transport Infrastructure and Facilities is headed by Chief Aerodromes Officer (P6). The School of Aviation is headed by a Principal Officer (P8).

Since the Functional Review has been accepted by the Cabinet, its recommendations

Chart 2

Functional Review
Recommended Organizational Structure
Department of Civil Aviation



are cited as the standard for MoT reorganization. MoT regularly advises the Department of Human Resource Management and Development as to the status of implementing the organizational and functional actions recommended in the Functional Review. Although many of the functional recommendations have been implemented, the DCA organizational changes and staffing actions have not yet occurred.

DCA indicated that they have not made the organizational changes because of the pending ICAO feasibility study which will be recommending a reorganization consistent with autonomous agency concept.

2.3 Functions, Authorities and Responsibilities

Most of the DCA's functions are safety related, which is one of the reasons the Functional Review combined many of them into a single Air Transport Safety Division. The safety regulatory functions are all based upon the authorities conveyed by the AA and the ICAO SARPs.

2.3.1 Airworthiness

This unit is responsible for ensuring the continued airworthiness of all Malawi registered civil aircraft. At present there are 28 registered aircraft. In carrying out these responsibilities it participates in aircraft incident and accident investigations,

issues certificates of airworthiness to Malawi registered aircraft, registers aircraft, examines all documentation relating to aircraft operation maintenance, determines the compliance of aircraft with airworthiness codes, issues notices on new airworthiness maintenance requirements, conducts periodic checks of aircraft for airworthiness and competency of maintenance personnel, recommends actions to correct defects that may affect airworthiness, examines and licenses aircraft maintenance engineers and organizes air crew technical examinations.

2.3.2 Flight Operations

This unit is responsible for approval of the operations manual for Air Malawi and all registered charter operators in accordance with the ICAO manual of procedures, develop instrument landing procedures, issuing flight safety and operations procedural circulars, assists in incident and accident investigations, issues and validates all flight crew licenses, examines operating personnel training and safety systems for adequacy, organizes testing of ICAO air navigation procedures, and approves flight personnel examiners.

2.3.3 Fire and Rescue

This unit is responsible for providing airport fire and rescue protection in accordance with the ICAO annex, managing the DCA motor vehicle pool and providing search and rescue operations.

2.3.4 Air Traffic Services

This unit is responsible for ensuring that all air operations within the Malawi flight information area are carried out safely, efficiently and expediously in accordance with ICAO annexes. In doing this the unit provides positive control of all air traffic, provides flight information, publishes and distributes aeronautical information publications, circulars and notices to airmen, and organizes search and rescue operations.

2.3.5 Telecommunications and Engineering

This unit is responsible for the installation and maintenance of navigational and landing systems, mobile radio telephone service, aeronautical fixed communications, airfield lighting, maintaining all equipment, compliance with ICAO and International Telecommunications Union SARPs, strategies to improve telecommunications, calibration of navigational aids and participation in aircraft incident and accident investigations.

2.3.6 Air Transport

This unit is responsible for the commercial management of air transport. In doing this it carries out the following functional responsibilities: negotiates bilateral and multilateral air services agreements, controls entry to the air transport markets,

analyzes, approves and monitors fares and rates, establishes and updates fees for airport and air navigation services, establishes a comprehensive system for collecting and reporting civil aviation statistics, maintains and encourages cooperation and coordination with ICAO, African Civil Aviation Commission (AFCAC) Southern African Transport and Communications Commission (SATCC) and Common Market for Eastern and Southern Africa (COMESA) organizations and develops plans for improving air transport services.

2.3.7 Aerodromes

This unit is responsible for the administering, licensing and registration of airport facilities in accordance with the ICAO Airport SARPs and the AA Subsidiary Aviation (Aerodromes) Regulations. In carrying out these functional responsibilities it ensures efficient and effective administration of Government airports, regularly inspects all licensed facilities, initiates improvement projects, monitors operations for compliance with ICAO annexes, coordinates with all inspection authorities to encourage compliance with the ICAO facilitation annex, coordinates with Government and contractors on airport maintenance, improvements and construction programs, and managing aerodrome finances.

2.3.8 School of Aviation

The School of Aviation is responsible for providing in-service training to technical and professional staff of the DCA in the areas of air traffic control, aeronautical information, communications, fire and rescue and telecommunications engineering. It was equipped with an airport simulator and an approach/area control simulator through a bilateral aid program. As of the fiscal year 1999 budget the school has only one instructor in communications and one engineering assistant; five of the seven instructor posts are vacant. The School is not viable at this staffing level. There are limited prospects for additional students.

2.4 Comments

Discussions with DCA staff indicate that the authorities and responsibilities of each of the units are clear with little ambiguity or overlap. The DCA staff have a clear understanding of the authorities granted to them by the AA, accompanying Subsidiary Regulations and the ICAO SARPs.

The DCA has not made as much progress in easing market entry or deregulating rates and fares as the other modes. The Air Transport unit administers a process for licensing operators of scheduled air service. A crucial part of this process requires the applicant to provide evidence of the demand for such service. A hearing can be held on the application. If it is found that there is already adequate service or the opportunity for such service could be provided by the existing carrier, Air Malawi, then the application can be denied. (Similar provisions which limited entry for road freight and passenger carriers on the basis of service have been removed from the Road Traffic Act). This regulated control of entry is discussed extensively in the Civil Aviation Legal Framework Report and a recommendation

is made for its elimination. The unit also approves and monitors rates and fares charged for air passenger and cargo service. This is again the application of economic regulation that is inconsistent with the deregulation which has taken place in other modes. The regulations should be amended.

The School of Aviation does not have staff to provide training in the important areas of air traffic control, telecommunications and engineering and fire and rescue services. Only one of the full time instructor's posts is filled. This situation has not changed since reported in the Functional Review of 1996. DCA noted that they have full time technical staff in these areas who teach at the School as needed to train new personnel. Advanced technical training is usually conducted at training facilities outside the country. The School is equipped with an airport air traffic control simulator which is in need of repair and is not now being used. The School is not being fully utilized by the DCA for training purposes. It is used more by other government agencies for meetings and other activities. In fiscal year 1999 the recurrent expenditures for this facility, including operation, maintenance and staff cost 726,051 Malawi kwacha, a substantial outlay for a facility that is not fully utilized.

DCA should either consider divesting the facility or converting it to use as an office for the DCA or its successor agency. This is a significant drain on scarce funding resources that could be better utilized in sending staff to technical training centers outside the country.

3 Interactions with other Organizations

3.1 Malawi

3.1.1 Government

The DCA interacts with a number of the other Malawi Government organizations in carrying out its functional responsibilities. These agencies include but are not limited to the Ministries of Defense, Foreign Affairs, Finance, Justice, Works, Tourism, Information, and Health. They interact extensively with the Department of Home Affairs which approves all over-flights and unscheduled landing requests, the National Economic Council, the District and Local Governments and the Statutory Bodies.

3.1.2 Air Malawi Ltd.

AML is the organization within the country with which the DCA interacts most extensively. The DCA provides air traffic control for all flights, operates and maintains the airports which AML serves, provides flight information, provides all navigational aids, approves all operations manuals, issues pilot, crew, and maintenance engineers licenses, establishes landing procedures, registers and issues airworthiness certificates, checks maintenance procedures, negotiates bilateral and multilateral air service agreements, and approves passenger, cargo and mail fares and rates. The DCA staff with commercial pilots licenses periodically logs cockpit flight time with AML to keep their licenses current. This arrangement potentially presents an opportunity for conflicts of interest since the same staff must

periodically inspect AML for compliance with the aviation laws and regulations of Malawi as well as the ICAO SARPs but the problem is not serious.
DCA indicated that AML is their most formidable competitor in their quest for hiring new technically qualified staff. AML, as a parastatal, can offer much more competitive salary and benefits than the DCA, which must follow Government civil service guidelines.

The Privatization Commission plans to privatize AML in calendar year 2000. This action should not have any impact on the DCA organization structure or its functional responsibilities. Most of the interaction DCA has with AML has been in the safety regulatory areas, and that will continue.

For a number of years the Government of Malawi imposed royalty charges on charter operators as a means of collecting revenue and aiding AML and its subsidiary Air Cargo Ltd. The royalty charge did not apply to AML and Air Cargo Ltd. This fee amounted to seven percent of charter cost for those carriers which regularly served Malawi and four and a half percent for infrequent charter operators. The fee covered only cargo operations although it was originally established to include passenger charters as well. The royalty fee collections were given to AML. There was no basis in either the AA or the Subsidiary Regulations for this fee. This discriminatory practice was abolished in 1999.

3.1.3 Air Cargo Ltd.

Air Cargo Ltd. (ACL) is a wholly owned subsidiary of Air Malawi, which transports cargo on chartered aircraft usually of foreign registration. DCA has much less interaction with this entity.

ACL is also scheduled to be privatized in calendar year 2000. Since ACL does not operate any aircraft and only buys cargo space on chartered aircraft, privatization of it will have no impact on the DCA's organizational structure or its functional responsibilities.

3.1.4 Airport Development Ltd. (ADL)

ADL is a parastatal organized to own and operate LIA. Its responsibilities are mainly commercial. They handle the rental of space, operate concessions and maintain the building and grounds. ADL derives its income primarily from rents, concessions and the Malawi Catering Service, which provisions aircraft.

Lack of funding has created some problems in transferring functional responsibility for runway maintenance, engineering maintenance, security, and fire and rescue from DCA to ADL. ADL reportedly maintains that without full access to the aircraft and passenger fees they cannot afford to take over these responsibilities. At present DCA is still responsible for these functions.

The Privatization Commission has not proposed to privatize ADL. They have

proposed to undertake a functional review of the Lilongwe International Airport. This could have some impact on DCA staffing levels at the airport particularly for the security guards whose services could be contracted out as well as fire and rescue, which could be transferred to ADL. These actions would have very little impact on DCA's organization and functional responsibilities. DCA would continue to have the regulatory responsibility as set forth in ICAO SARPs concerning airport licensing and fire and rescue services.

3.1.5 Private Sector

3.1.5.1 International Air Carriers

DCA interacts with the international air carriers by providing air traffic control for all flights, operating and maintaining airports, providing flight information, providing all navigational aids, establishes landing procedures, negotiates bilateral and multilateral air service agreements, and approves passenger, cargo and mail fares and rates.

3.1.5.2 General Aviation

DCA interacts with general aviation by providing air traffic control for all flights, operating and maintaining airports, providing flight information, providing all navigational aids, issuing pilot, crew, and maintenance engineer licenses , establishing landing procedures, registering and issuing airworthiness certificates, and checking maintenance procedures.

3.2 Regional

3.2.1 Southern Africa Transport and Communications Committee (SATCC)

The DCA is an active member of SATCC Air Transport Committees where they discuss both safety and economic issues.

3.2.2 African Civil Aviation Commission (AFCAC)

Malawi is a member of the AFCAC. DCA is Malawi's representative in this organization. The principal objectives of AFCAC are to provide a forum for members to discuss and plan all of their civil aviation activities, promote better utilization and development of the African air transport activities and to encourage application of ICAO SARPs.

3.2.3 Bilateral Agreements

The DCA has concluded and put into force 14 bilateral air services agreements with other countries, most of which are in the African region. At present seven of these countries have international carriers which serve ILA and/or Blantyre. These

carriers include British Airways, Ethiopian Airlines, South African Airways, Kenya Airways, Air Zimbabwe, Zambian Express and Air Tanzania.

3.3 International

3.3.1 International Civil Aviation Organization (ICAO)

ICAO SARPs form the core of DCA's safety regulatory responsibilities. In order for Malawi to participate in international civil aviation, and as a Contracting State of ICAO they must comply with the international SARPs or file differences thereto. Malawi has done as most other States and applies many of the ICAO SARPs to domestic air transport services also. The civil aviation laws and regulations and policies as implemented and carried out by the DCA are largely shaped by the ICAO SARPs. .

4 Organizational Conflict

A recent study undertaken by ICAO indicated that the DCA was not in full compliance with Annexes 1, 6, and 8. The lack of compliance appeared to be prompted by limited institutional capacity in the DCA to evaluate the various SARPs and to initiate the required procedures to have them enacted. This points to a need to strengthen their capacity to identify and evaluate those SARPs that are appropriate to Malawi conditions and to ensure that they are enacted. The constraints reportedly are related to tight budgets, lack of sufficient qualified personnel and insufficient technical training.

5 Findings

5.1 ICAO Aviation Safety Review

A recent ICAO review gave Malawi's commercial aviation sector very high marks on their safety record. This speaks well of Air Malawi but it also speaks well of the safety oversight activities of the DCA.

5.2 Organization

The actual organizational structure is not in keeping with that recommended in the Functional Review. DCA noted that when the ICAO restructuring study on establishing an autonomous CAA is completed it will recommend an organization structure consistent with its findings. It therefore sees no need to make any organizational changes at this time. This organizational study supports the DCA position on this matter.

5.3 Authorities and Responsibilities

The DCA authorities and responsibilities generally appear rational for carrying out the air transport safety, regulatory and management functions. Changes to the AA and the

Subsidiary Regulations are needed to ensure consistency with the deregulation and commercialization objectives of the NTP, support implementation of the ICAO SARPs and to be more aligned with international practices.

Discussions with DCA staff revealed a clear understanding of their functional responsibilities and the process required to carry these out. A recent ICAO safety audit disclosed that although the staff was aware of what was required they were at times restricted by institutional constraints including tight budgets, lack of sufficient qualified staff and insufficient technical training.

5.4 Accountability

This organizational review found no overlap of functions and responsibilities that could result in confusion and lack of follow-through. DCA staff have a clear understanding of their tasks, methods of carrying out the tasks, the chain of command and the importance of their missions.

5.5 Training and Development

Limited opportunities for training and development programs have been mentioned by both the Functional Review and the ICAO review as problem areas. The Functional Review recommended that senior DCA management need more training in public management skills such as budgeting, policy formulation and staff management principles. Budget constraints restrict training. DCA is trying to solve this problem by periodically sending the senior managers to in-country public administration short courses at the Malawi Institute of Management.

The ICAO safety audit cited lack of formal technical training as one of DCA's deficiencies limiting their ability to effectively carry out some of the functional responsibilities, particularly in the personnel licensing areas. The lack of technical training to upgrade skills poses a difficult problem. This training is not available in-country. Out-of-country training programs are expensive and with the tight budget constraints, very difficult to get approved.

5.6 Other Issues

The ICAO review highlighted the lack of automation as one restriction to DCA being able to effectively carry out responsibilities. DCA should begin to upgrade and expand their computer capabilities including equipping each of the unit chiefs with a desk top computer. They have a number of functions that could benefit from automation including processing airport statistics, maintenance of crew licenses, aircraft registers, in-house communications and access to technical information which is increasingly made available only on diskette.

6 Conclusions

6.1 The DCA headquarters staff carry out their functional responsibilities in a very professional manner. They clearly understand their tasks, the AA laws and Subsidiary Regulations and

the ICAO SARPs that shape their functional responsibilities. They understand and follow the DCA organization and chain of command. There is very little overlap and therefore very little confusion on responsibilities.

6.2 DCA's allocation of headquarters personnel is uneven. Two of the units, Airworthiness and Air Transport, appear understaffed while Telecommunications and Engineering seems to have an abundance of staff.

6.3 Most of the DCA headquarters staff is reaching the midpoint or beyond in their careers. All of them have extensive experience in carrying out their programs. DCA needs to focus on recruiting young university-trained professionals with engineering and managerial backgrounds to provide the organizational backup and continuity as the more senior staff members begin to retire.

6.4 DCA finds it difficult to compete for qualified personnel. Other parts of MoT have been successful in attracting university trained personnel. DCA should look to see how they could improve their recruitment program. They should be looking for applicants that have an interest in aviation and provide them with the technical training needed to carry out their functions.

6.5 The privatization of AML and ACL will not have any effect on the DCA organizational structure and functional responsibilities.

7 Recommendations

7.1 School of Aviation

The MoT should reevaluate the need for the DCA's School of Aviation. The alternatives to consider could include transferring the facility to the Malawi higher education system to be used for polytechnical transport training or redeploying the building to another aviation use. If it is not financially sustainable as a Malawi or regional specialized aviation school, then DCA should divest the facility. DCA could do all of their training through special technical and managerial courses conducted at the Malawi university and polytechnical centers and at specialized centers outside the country.

7.2 Staffing

DCA should fill the Director post quickly and the vacant post in the Airworthiness and Air Transport units. There seems to be an imbalance between work load and staffing. DCA should study the reallocation of posts to ensure that the staffing of the units reflects the workload. Staffing patterns will be examined in the ICAO restructuring study.

7.3 Office Automation

DCA should begin upgrading and expanding their computer automation capabilities. All of the unit chiefs and some of their key staff should either have in their office or have access to computers. These computers should be linked to the airports, particularly where the units

need to exchange information such as flight operations, air traffic, navigational aids and airport and air transport statistics.

7.4 Training

Staff training must be a priority objective. The Functional Review cited the need to provide managerial training to the senior headquarters staff. The ICAO safety review cited the need to provide current technical training so that the staff will be better equipped to carry out licensing and certification responsibilities.

7.5 Recruiting

DCA should enhance their program to recruit university and polytechnical young professionals with engineering or managerial backgrounds.

7.6 Self-Financing

DCA should raise the international departure fee for Malawi citizens. The fee should be payable in either U.S. dollars or the equivalent Malawi kwacha at the current exchange rate. It should be collected by the airlines at check-in instead of by DCA staff.

Road Traffic Department

Organizational Structure

Road Traffic Department
Organizational Structure

I. Malawi Road Transport Sector

Road transport presently accounts for about 85% of Malawi's international freight and 95% of its domestic freight market. Virtually all passenger traffic except international aviation moves by road. There were 16,451 kilometers of road in Malawi in 1997. Most of these roads are dirt or gravel. Only about 19% of the roads are paved. The paved roads connect Malawi's major cities and provide access to neighboring countries. Malawi has had difficulty funding and maintaining its road network. The recent creation of a National Roads Authority (NRA) should help improve this situation.

Road Freight

Malawi has just adopted a new Road Traffic Act 1997 (RTA) and has deregulated its road transport sector. New firm entry is based primarily on safety considerations. There are no tariff or route restrictions for freight haulage. While there are a large number of Malawian trucking firms (10% of all registered vehicles are goods vehicles over 1,524 kilograms), the number of large Malawian trucking firms (with over 30 trucks) in the international freight market is very small. Competitive trucking alternatives are limited on some international routes because freight forwarders require larger firms for volume moves. Competition for international traffic is likely to become more vigorous once the new rail concession becomes operational.

The existing Malawi Road Transporters Authority Act, 1970 is a hold over from Malawi's earlier, more structured and regulated transport sector. It establishes the Malawi Road Transporters Authority (MRTA) with responsibilities to promote the interests of the road transport industry. Only an "approved transporter" defined as a Malawi African road transport operator who is approved by the Authority, is allowed to be a member. The MRTA is allowed to be funded from parliamentary appropriations (although this has not occurred in practice). The Act is potentially discriminatory and should be amended or repealed. The RTD agrees and has draft legislation to correct the issue.

Domestic truck freight rates used to be determined by the Agriculture Development Marketing Board (ADMARC), which had a monopoly on the marketing of certain agriculture products. Since the liberalizing of agricultural markets, ADMARC has a less prominent role in setting truck rates. ADMARC, however, is still the largest single user of domestic trucking.

Road Passenger Transport

Shire Bus Lines (formerly Stagecoach Bus Lines) controls about 30% of the commercial inter-city passenger traffic. Several smaller bus lines account for 10-15% of this market. The

remaining 55-60% of inter-city passenger movements are handled by minibuses. With the exception of a few routes that Shire Bus Lines runs in Blantyre, almost all commercial urban passenger movements are handled by minibuses. There are a few taxis, but these primarily cater to hotels and airport trade.

Safety

The primary functions of the RTD, operator licensing, vehicle registration and inspection, and weighbridge operation, are related to Safety. Several other government agencies, however, also have safety-related functions. Because the safety functions of these agencies are related, often overlap, and sometimes are in conflict, a short description of each agency is presented below. The main focus of this report, however, is the Ministry of Transport's Road Traffic Department. Any successful safety program will require full coordination between all safety agencies.

Safety is a very serious problem in Malawi. The country has the highest road accident rate in Africa. Malawi has averaged about 1,100 fatalities and 3,500 persons injured annually for the last six years. While there are a number of reasons for such a high rate, lack of effective traffic enforcement and poor vehicle condition are among them.

The Government of Malawi has established a two staged goal of reducing road fatalities from the present high level to first, the sub-Saharan annual average of 62 per 10,000 vehicles and second, to the Southern African Development Community (SADC) average of 33 fatalities per 10,000 vehicles. Improvements in the performance of all of Malawi's safety-related organizations are needed in order to accomplish these objectives.

The Government of Malawi has created a multi agency task force to develop proposals to improve its road safety. The task force report is expected soon.

Government Oversight

Government oversight of the road sector is undergoing dramatic change. The National Roads Authority Act was passed in 1997. This Act creates the new National Roads Authority funded by dedicated road user taxes. The NRA is taking over road maintenance and rehabilitation functions from the Ministry of Works (MoW). The NRA is just beginning to acquire its full staff and clarify its relationships with other transport agencies. In addition, as of June 27, the MoT and the MoW were combined into the new Ministry of Transport and Works. The new Minister is Mr.Peter Chupa.

The Road Traffic Act was also completely rewritten in 1997. This Act is primarily concerned with road traffic management and safety. Its forms the basis for the operations of the Ministry of Transport's Road Traffic Department (RTD). It should be noted that while road traffic regulations have been prepared to implement the new Act, they have not yet been published in

the Gazette. This is required before the full provisions of the RTA can be enforced.

In addition to the RTD and the NRA, the other principal government agencies involved in the road sector are the Malawi Police, who are responsible for road traffic enforcement and accident investigation, and the National Road Safety Council (NRSC) of Malawi, which is responsible for promoting road safety.

The National Road Authority (NRA)

The NRA is a statutory body. NRA is the primary agency responsible for the maintenance and rehabilitation Malawi's roads. The NRA currently has a staff of 30 which is expected to rise to about 60 by the end of the year. A Board of Directors governs the National Road Authority. Most of the actual road maintenance and rehabilitation work will be done by contract rather than force account. As mentioned previously, the NRA is funded by a dedicated road fund currently financed through user charges. This fund may be supplemented by the addition of licensing and registration fees currently collected by the RTD. At present the Road Fund is supplemented by a Government subvention. The NRA's anticipated budget for 1999/2000 is well in excess of a half-billion kwacha making it the largest agency (in budget terms) involved in the road sector.

The NRA's has a significant safety-engineering role in road design, markings, and signs. Improved road shoulders, for example, might help keep bicycles out of the main traffic lanes where they are more likely to be involved in road accidents. There have been suggestions that weighbridge operations and axle load control should be transferred from the RTD to the NRA. If this were done it would involve the NRA in a new role, that of an enforcement role. The advantage would be that the NRA has a direct interest in the proper enforcement of vehicle weight control.

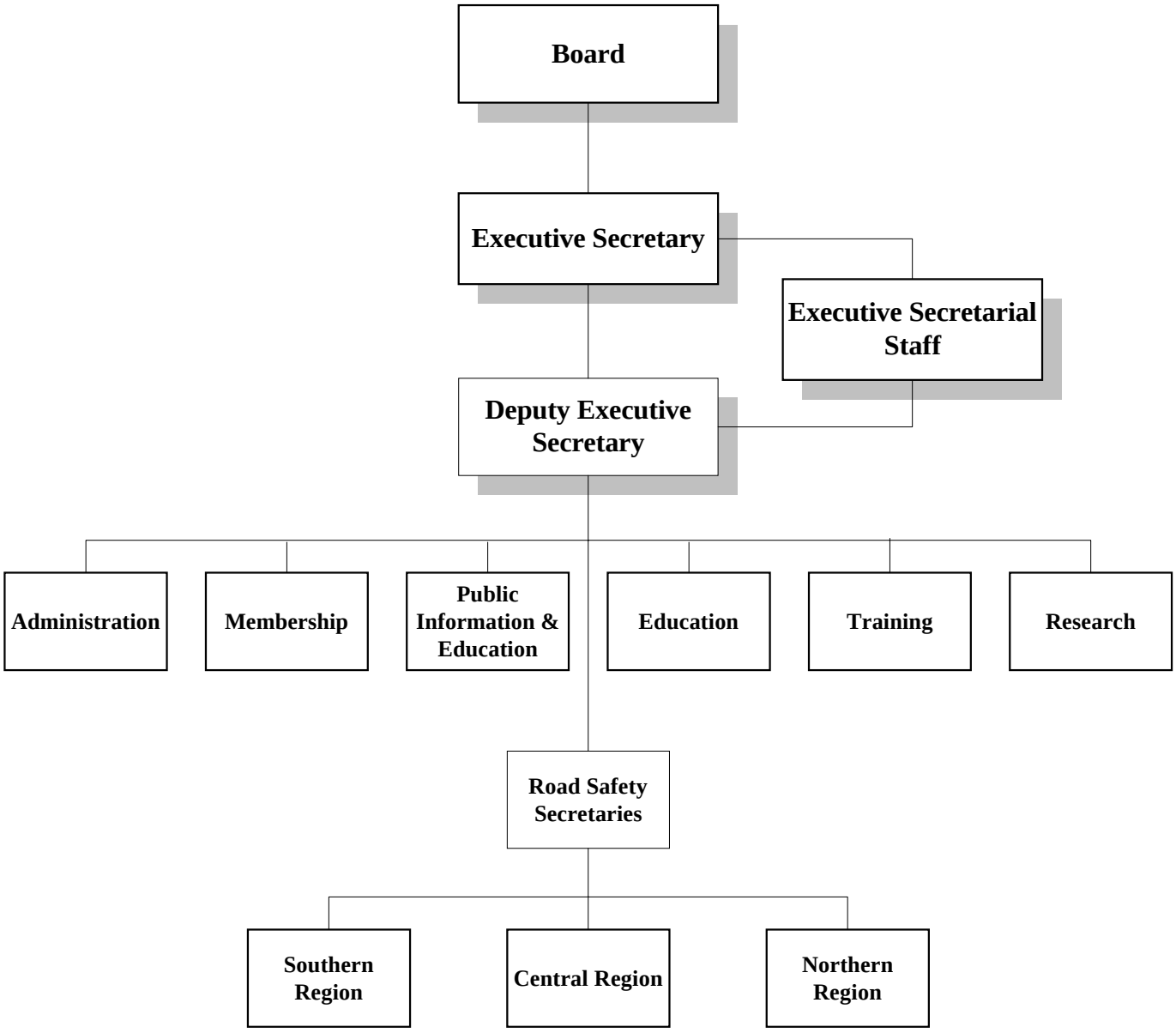
The Malawi Police (MP)

The MP report to the Department of Home Affairs in the Office of the President and Cabinet. Malawi Police have the traditional law enforcement responsibilities of crime prevention, accident investigation, traffic enforcement, and community relations. The MP currently has a staff of 6,500. Although the MP is the primary agency responsible for traffic enforcement, this function does not appear to be a high police priority for a number of reasons. The police have many other responsibilities and they have very limited funds for vehicles or fuel. The police do not have adequate equipment such as breathalyzers, radar guns, or communications. The police rely mainly on roadblocks for inspection purposes. Without communication it is virtually impossible for the police to control speeding or other moving violations. Nevertheless, the MP could do a much better job of citing or removing unsafe vehicles at roadblocks. Vehicles with one headlight and other obvious visual safety defects appear to be routinely allowed to proceed.

The National Road Safety Council (NRSC) of Malawi

The NRSC is a statutory body governed by the equivalent of a Board of Directors, with substantial government representation. It is the only institution in Malawi whose charter focuses solely on road safety. It promotes safety programs and education. The staff of 23 also investigate accidents although no reports are published. The NRSC is funded by a government levy of three-fourths of one percent on compulsory automobile insurance premiums. The insurance companies do not appear to be well represented on the NRSC's board. In the past, the NRSC has received a substantial government subvention but this subvention was eliminated this fiscal year. Table 1 shows the organizational structure of the NRSC.

Table 1
National Road Safety Council

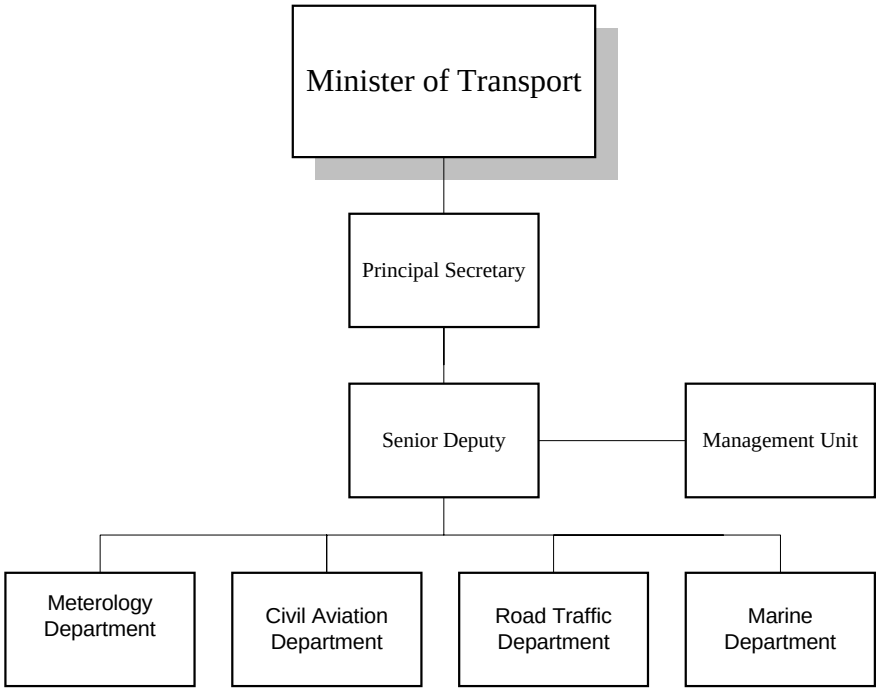


The NRSC does not appear to be very effective in its role of promoting traffic safety. The government levy on insurance companies should probably be eliminated in favor of voluntary sponsorship of the NRSC by the insurance industry. It new role would be in line with the recommendation of the Functional Review that it focus primarily on civic education. The government's program for road safety should be in the Ministry of Transport.

Road Traffic Department (RTD)

The RTD is one of four modal departments in the MoT. Table 2. shows the organization of the Ministry of Transport.

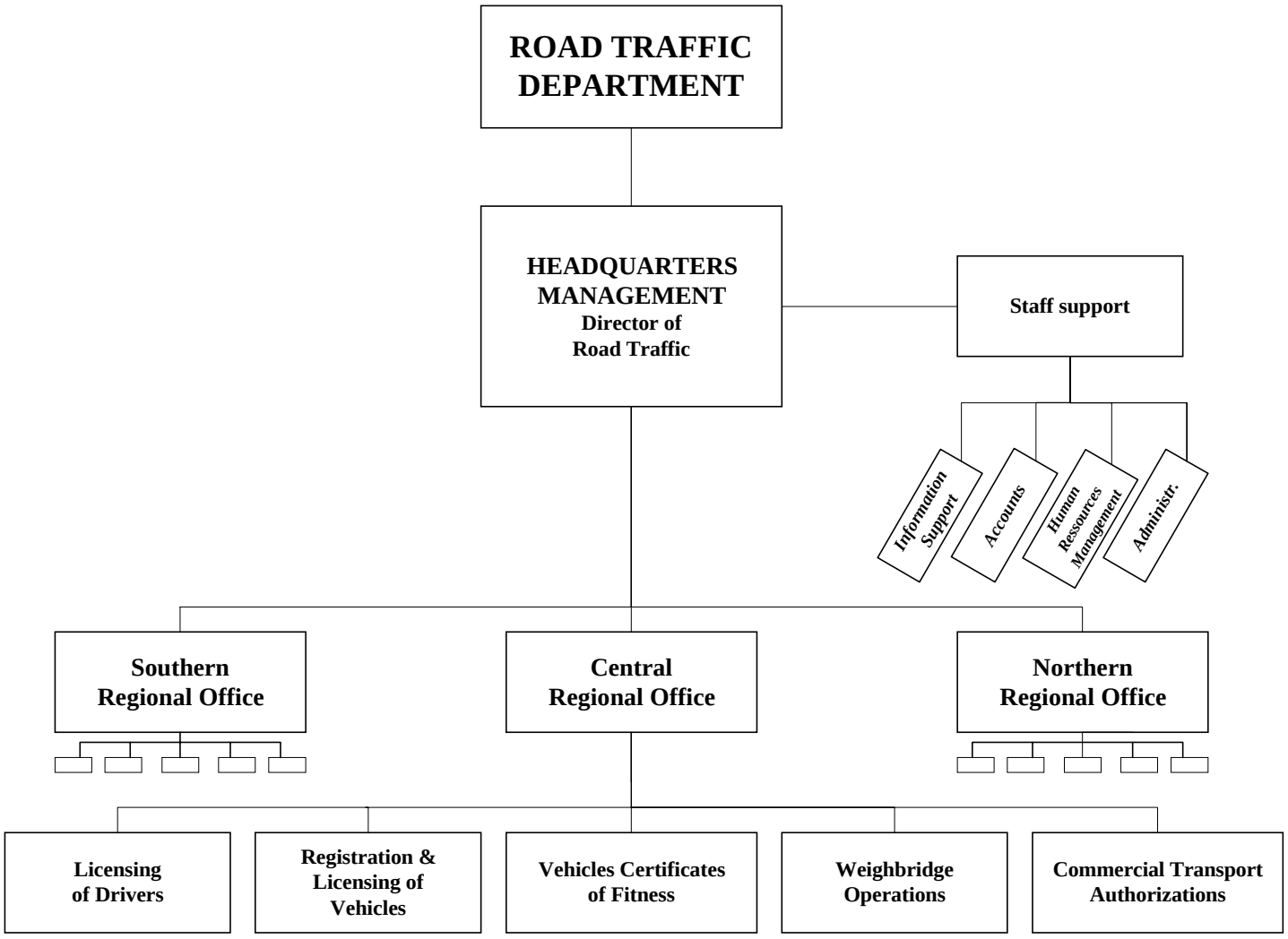
Table 2
Ministry of Transport



The Road Traffic Department

The Director of Road Traffic heads the Road Traffic Department (formerly the Road Traffic Commission). The Director reports directly to the Senior Deputy Secretary. Table 3. shows the organization of the RTD.

Table 3



The RTD is organized along its five principal functions; licensing drivers, vehicle registration and licensing, issuing Certificates of Fitness (vehicle inspections) weighbridge operations, and commercial transport authorizations.

- Licensing of Drivers

The RTD is responsible for the examination and granting of licenses to operate passenger cars and various classes of commercial vehicles. It also issues learners licenses, professional driving

permits and international driving permits. In 1997 there were nine commercial driving schools that had been approved and licensed by the RTA.

Driver license examinations are given only in Blantyre, Lilongwe and Mzuzu. The examination includes questions on the vehicle code and a road test. A driver's license life history card includes a record of any license suspensions, but there is no history of accidents or minor traffic violations.

Under the RTA, 1997, the examiners of the driver licensing unit have been given the authority to enforce traffic laws and perform certain road traffic policing functions. These include stopping vehicles and requiring the driver and occupants to identify themselves, issuing notice that require a vehicle to be inspected, impounding invalid documents, etc. The extent and scope of this new police authority has not yet been clearly defined nor has a program been developed to train the examiners in their new duties.

- Registration and Licensing of Vehicles

Registration and licensing of vehicles is conducted in the RTA's three regional offices. Vehicle licenses are sold for any period over three months to one year. The variation in registration periods combined with a registration system that is not fully computerized makes it almost impossible to know how many vehicles are legitimately on Malawi's roads. The adoption of a staggered annual registration system would seem appropriate and should not impose undue hardship on anyone who is financially able to own a vehicle.

- Certificates of Fitness

Certificates of Fitness (CoF) are required for all goods vehicles with a gross vehicle mass exceeding 3,500 kilograms, buses with a gross vehicle mass exceeding 3,500 kilograms or when designed to carry more than 10 passengers, any other for-hire passenger motor vehicles, and break down vehicles. The is valid for 12 months in the case of a goods vehicle and six months in the case of for-hire passenger vehicles.

Passenger vehicles are not required to be inspected unless the vehicle is ten years old. Many vehicles, however, become non-road worthy long before they reach this age. Consideration should be given to requiring an annual vehicle inspection at the time of vehicle registration.

- Weighbridge Operations

Overload of vehicles is a major problem in Malawi. Road deterioration, and the resulting expense of road repairs, increases geometrically with increase overloading. Overloaded trucks are also very unsafe and are involved in a disproportionate share of road accidents. A 1997

survey where portable scales were used estimated that the number of overloaded vehicles ranged from 40 to 85 percent.

The current overloading control strategy is directed at controlling vehicles crossing Malawi's borders. There are weighbridges at the four border posts, and a domestic weighbridge located at Balaka. The RTD also has some portable weighbridges, but they are frequently not operational. The concept of relying almost entirely on weighbridge control at international borders seems flawed since there appears to be as much problem with domestic carriers as international carriers.

Currently when a vehicle is found to be overloaded, the operator is required to pay an overload fee before the vehicle may proceed. The fee is paid at the weighbridge and the excess load must be off-loaded unless the load can be readjusted to bring the vehicle within permissible limits.

The current system of overloading control has not worked well. The equipment is frequently inoperable and there is a lack of staff training. The Government has agreed that responsibility for axle load control will pass from the RTD to the NRA which is expected to ensure that the necessary services are provided on a contract basis. The transfer of responsibility has been delayed until the NRA has the capacity to absorb this responsibility. Beginning in December of 2000 the fines collected by the NRA will be paid directly into the NRA's road fund account.

While this study does not take a position on where the weighbridge responsibility should lie, it notes that good arguments can be made for either transfer of the weighbridge function wholly to the NRA, or leaving it with the RTD.

The programs of the NRA will benefit directly from the reduced road maintenance costs that good overloading control will bring. The NRA also has a funding source for fixing and purchasing new weighbridge equipment. On the other hand, responsibility for weighbridge operations will require the NRA to become an enforcement agency. The NRA currently has no skill or expertise in this area.

The real benefits for an overloading control program may come from contracting out the operation of weighbridges and allowing the private sector to build new facilities. Private weighbridge operators would be subject to government oversight, probably by the NRA. The Road Traffic and Transport Legal Framework Report recommends a legal amendment to enable private operation of weighing stations (including weighing using portable scales).

- Commercial Transport Authorizations

Commercial transport authorizations are issued for public service vehicles (taxis, buses, and other vehicles carrying passengers) and goods vehicles for hire.

Road Traffic Department Staffing and Budget

Table 3 shows the current staff levels of the Road Traffic Department by region and function. The RTD headquarters and Central Regional Office are in Lilongwe. These two offices have 13% and 24%, respectively of the total RTD staff. The Southern Regional Office, with 37% of the staff, is located in Blantyre. The remaining 26% of the staff is located in the Northern Regional Office in Mzuzu. There are weight bridge offices at the four border posts of Songwe, Mchinji, Mwanza and Muloza. There is also a domestic weighbridge office at Balaka. All the weighbridge offices report to the regional office in their area. On a functional basis, management accounts for 38% of the total staff. Weighbridge operations have 24% of the staff and the remaining 38% are divided among licensing of drivers, registration and licensing of vehicles, vehicle certificates of fitness and commercial transport authorizations.

Table 4
MoT's Road Traffic Department
Distribution of Staff Among
Units and Functions

HEADQUARTERS	
# Management and Support	15
# Weighbridge Operations	2
# Commercial Transport Authorizations	1
Subtotal	18
CENTRAL REGIONAL OFFICE	
# Management and Support	12
# Licensing of Drivers	3
# Registration and Licensing of Vehicles	3
# Vehicle Certificates of Fitness	3
# Weighbridge Operations	8
# Commercial Transport Authorizations	3
Subtotal	32
SOUTHERN REGIONAL OFFICE	
# Management and Support	17
# Licensing of Drivers	5
# Registration and Licensing of Vehicles	5
# Vehicle Certificates of Fitness	5
# Weighbridge Operations	12
# Commercial Transport Authorizations	6
Subtotal	50
NORTHERN REGIONAL OFFICE	
# Management and Support	8
# Licensing of Drivers	2
# Registration and Licensing of Vehicles	2
# Vehicle Certificates of Fitness	2
# Weighbridge Operations	11
# Commercial Transport Authorizations	11
Subtotal	27
TOTAL	136

The Department's recurrent funding of 6.3 million kwacha represents about 13% of the MoT's total budget. RTD's staffing, consists of 136 established posts with 109 of the positions filled. The RTD budget and staff appear quite modest in comparison to the resources allocated to the other Departments of the Ministry of Transport.

Table 5 separates the RTD's budget into its functional responsibilities. The budget combines executive direction with four management support units under the heading "management and support," a common practice in Malawi government budgets. The category "traffic

Table 5
ROAD TRAFFIC DEPARMENT: Comparison of Budget and FunctionaL Categories

Budget Category	***Budget (kw)***	***Functional Category***	
Road Traffic Dept. Headquaters			
Management and Support Services	746,854	Executive Direction, Four Management Support Units	
Traffic Management	700,184	Driver Licensing, Registration & Licensing-Vehicles, Vehicle Fitness, Commercial Transport Authorization	
Protection of Infrastructure	114,587	Weighbridge Operations	
Headquarters Total	**1,561,625**		**25%**
Central Region			
Management and Support Services	508,142	Management and Support Services	
Traffic Management	692,344	Driver Licensing, Registration & Licensing-Vehicles, Vehicle Fitness, Commercial Transport Authorization	
Protection of Infrastructure	246,044	Weighbridge Operations	
Central Region Total	**1,446,530**		**23%**
Southern Region			
Management and Support Services	698,058	Management and Support Services	
Traffic Management	998,169	Driver Licensing, Registration & Licensing-Vehicles, Vehicle Fitness, Vehicle Fitness, Commercial Transport Authorization	
Protection of Infrastructure	384,544	Weighbridge Operations	
Southern Region Total	**2,080,771**		**33%**
Northern Region			
Management and Support Services	429,389	Management and Support Services	
Traffic Management	477,816	Driver Licensing, Registration & Licensing-Vehicles, Vehicle Fitness Commercial Transport Authorization	
Protection of Infrastructure	324,153	Weighbridge Operations	
Northern Region Total	**1,231,358**		**19%**
Department Grand Total	**6,320,284**		**100%**

management" includes; driver licensing, vehicle licensing and registration, issuance of fitness

certificates, and commercial transport authorization (passenger and goods transport). The final line function, weighbridge operations, is included under "protection of infrastructure." Management support accounts for 37.7% of the budget, traffic management 45.4%, and weighbridge operations the remaining 16.9%.

Improving Traffic Safety

Reducing Malawi's road accident rate is a very difficult problem. The effectiveness of traffic safety programs has been constrained by servere fiscal constraints and weak legal and enforcement institutions. In the long run an effective traffic safety program will be expensive and include computerization of RTD and Malawi Police records, improved communications, and an adequate budget for police vehicles and fuel. There are, however, a number of short term measures that should have a positive effect on safety. These include improved vehicle inspections, privatization of weighbridge operations, and increased police attention to vehicle safety defects at checkpoints.

A road safety program should first evaluate the real causes of accidents. Malawi Police appear to do an adequate job of accident reporting, but there is little real analysis of these reports. The cause of accidents can be broadly divided into three main categories; operator error, vehicle defect, and road conditions. Each of these categories involves several government agencies and must be addressed separately.

Operator Error

Operator error includes factors such as unskilled drivers, drunk driving, speeding, and a record of frequent accidents. The RTD is involved in the initial licensing of the operator, the maintenance of operator records, and suspension of driving privileges. The police are responsible for the enforcement of traffic regulations. The NRSC is involved in safety education.

Vehicle Defects

Defective brakes, worn tires, and burned out lights are factors in many accidents. The Road Traffic has responsibility for vehicle inspections, although passenger vehicles do not require inspections until they are over 10 years old. This should be changed to a required annual inspection for all vehicles. Police are responsible for enforcement of vehicle safety standards. Increased emphasis should be given to visual inspections at police check points.

Road Condition

Road condition, traffic signs and vehicle overloading contribute to traffic accidents. The NRA has primary responsibility for road maintenance and traffic signs. The RTD currently has responsibility for control of vehicle overloading, although this function may become the

responsibility of the NRA.

It is clear that any effort to improve Malawi's road traffic safety record will involve the combined efforts of several agencies. This should be coordinated through the Ministry of Transport.

Recommendations for Road Traffic Organizational Structure

This report makes the following recommendations:

1. The Road Traffic Department draft regulations that were submitted to the Ministry of Justice should be promptly published in the Gazette.

2. The RTD budget should be broken down and presented along functional lines, i.e., licensing of drivers, registration and licensing of vehicles, vehicle Certificates of Fitness, and weighbridge operations. This delineation would help ensure that the allocation of resources between functions is appropriate.

3. The RTD should seek a ruling from the Ministry of Justice on the extent and limits of the authority of its examiners and if necessary seek legislation to extend this authority.

4. The National Road Safety Council (NRSC) should be reconstituted as a non-governmental organization. The insurance companies should be encouraged, but not required to fund the Council. Insurance companies who voluntarily support the NRSC should be represented on the council.

5. The enforcement of freight load limits needs to be greatly improved. There are substantial safety benefits, as well as road maintenance cost savings, from prevention of overloading. A portion of all fees collected should be used to support and upgrade the weighbridge systems. The proposed program of privatizing some weighbridge operations will support this objective.

6. Removing unsafe vehicles from the roads would improve safety. Consideration should be given to requiring all passenger vehicles to be inspected annually. Currently annual inspections are required only for vehicles over 10 years old. Additionally, the program could be self-financed from inspection fees.